



## **Cisco IOS XR Advanced System Command Reference for the Cisco XR 12000 Router, Release 4.3.x**

### **Americas Headquarters**

Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
<http://www.cisco.com>  
Tel: 408 526-4000  
800 553-NETS (6387)  
Fax: 408 527-0883

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## Preface

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This Preface contains these sections:

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- [Obtaining Documentation and Submitting a Service Request](#), page vii

## Changes to This Document

This table lists the technical changes made to this document since it was first printed.

**Table 1: Changes to This Document**

Revision	Date	Change Summary
OL-28456-02	May 2013	Republished with documentation updates for Cisco IOS XR Release 4.3.1 features.
OL-28456-01	December 2012	Initial release of this document.

## Obtaining Documentation and Submitting a Service Request

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## ASIC Driver Commands

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This module describes the commands used to configure and monitor the application-specific integrated circuit (ASIC) driver on a router running Cisco IOS XR software.

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# show controllers plim asic egress-channel bay

To display statistical information for the SPI4.2 transmit channel on a physical layer interface module (PLIM) ASIC, use the **show controllers plim asic egress-channel bay** command in EXEC mode.

**show controllers plim asic egress-channel bay** {0|1} **channel** *channel\_number* [**location** *node-id*]

## Syntax Description

<b>0</b>	Displays statistical information for the SPI4.2 transmit channel that is located in the bottom bay.
<b>1</b>	Displays statistical information for the SPI4.2 transmit channel that is located in the top bay.
<b>channel</b> <i>channel_number</i>	Identifies the transmit channel whose statistics you want to display. Replace the <i>channel_number</i> argument with the number of the channel whose statistics you want to display. Range is from 1 through 255.
<b>location</b> <i>node-id</i>	Identifies the location of the PLIM whose ASIC information you want to display. The <i>node-id</i> argument is expressed in the <i>rack/slot/module</i> notation.  <b>Note</b> Use the <b>show platform</b> command to see the location of all nodes installed in the router.

## Command Default

No default behavior or values

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.2	This command was introduced.
Release 3.5.0	The <b>show controllers plim asic tx-channel bay</b> command was replaced by the <b>show controllers plim asic egress-channel bay</b> command.

## Usage Guidelines

### Task ID

Task ID	Operations
interface	read
root-system	read

**Examples**

The following example shows sample output from the **show controllers plim ASIC egress-channel bay** command:

```
RP/0/0/CPU0:router# show controllers plim ASIC egress-channel bay 0 channel 0 location
0/4/CPU0

Host bay 0 Tx SPI4.2 channel 0 :
=====
Ifname                : DATA_PORT_0
SPI4.2 Channel state  : provisioned
Bay number            : 0
Tx SPI4.2 channel number : 0
Internal Buffer number : 0
SPI4.2 calendar entries : 1
Buffer Almost Full Threshold : 0x2c00
Tx Queuing ASIC port number : 0
```

This table describes the significant fields shown in the display.

**Table 2: show controllers plim ASIC egress-channel bay Field Descriptions**

Field	Description
Ifname	Identifies the primary transmit interface.
SPI4.2 Channel state	Indicates if the SPI4.2 <sup>1</sup> channel is provisioned.
Bay number	Identifies the bay that hosts the specified SPI4.2 transmit channel. Can be 0 or 1.
Tx SPI4.2 channel number	Identifies the SPI4.2 channel whose information is displayed.
Internal Buffer number	Identifies the internal buffer associated with the SPI4.2 transmit channel.
SPI4.2 calendar entries	Number of entries in the SPI4.2 calendar.
Buffer Almost Full Threshold	An increment counter which indicates that the transmit buffer is almost full. The “Buffer Almost Full Threshold” is expressed in hexadecimal format.
Tx Queuing ASIC port number	Identifies the SPI4.2 transmit port.

<sup>1</sup> System Packet Level Interface 4.2

## show controllers plim asic ingress-channel bay

To display statistical information for the SPI4.2 receive channel on a physical layer interface module (PLIM) ASIC, use the **show controllers plim asic ingress-channel bay** command in EXEC mode.

**show controllers plim asic ingress-channel bay** {0|1} **channel** *channel\_number* [**location** *node-id*]

### Syntax Description

<b>0</b>	Displays statistical information for the SPI4.2 receive channel that is located in the bottom bay.
<b>1</b>	Displays statistical information for the SPI4.2 receive channel that is located in the top bay.
<b>channel</b> <i>channel_number</i>	Identifies the receive channel whose statistics you want to display. Replace <i>the channel_number</i> argument with the number of the channel whose statistics you want to display. Range is from 1 through 255.
<b>location</b> <i>node-id</i>	Identifies the location of the PLIM whose ASIC information you want to display. The <i>node-id</i> argument is expressed in the <i>rack/slot/module</i> notation.  <b>Note</b> Use the <b>show platform</b> command to see the location of all nodes installed in the router.

### Command Default

No default behavior or values

### Command Modes

EXEC

### Command History

Release	Modification
Release 3.2	This command was introduced.
Release 3.5.0	The <b>show controllers plim asic rx-channel bay</b> command was replaced by the <b>show controllers plim asic ingress-channel bay</b> command.

### Usage Guidelines

#### Task ID

Task ID	Operations
interface	read
root-system	read

**Examples**

The following example shows sample output from the **show controllers plim asic ingress-channel bay** command:

```
RP/0/0/CPU0:router# show controllers plim asic ingress-channel bay 0 channel 0 location 0/4/CPU0
```

```
Host bay 0 Rx SPI4.2 channel 0 :
=====
Ifname                : DATA_PORT_0
SPI4.2 Channel state  : provisioned
Bay number             : 0
Rx SPI4.2 channel number : 0
Internal Buffer number : 0
Rx edram buffer start address : 0x0
Rx edram buffer end address : 0x31fff
Rx edram buffer size   : 0x32000
Rx length buffer start address : 0x0
Rx length buffer end address : 0x63fff
Rx length buffer size   : 0x6400
Number of calendar entries : 1
Quantum                 : 209714
```

```
RxEDRAM buffer threshold settings:
```

```
=====
----- <-- Buffer Start (0x0)
|-----| <-- SPI4 AEmpty0 (0x6400)
|-----| <-- SPI4 AEmpty1 (0xc800)
|-----|
|-----| <-- SPI4 AFull 0 (0x1f400)
|-----| <-- SPI4 AFull 1 (0x25800)
|-----| <-- Buffer Full (0x2bc00)
|-----| <-- Buffer End (0x31fff)
```

```
RxLen EDRAM buffer threshold settings:
```

```
=====
----- <-- Buffer Start (0x0)
|-----| <-- SPI4 AEmpty0 (0xc80)
|-----| <-- SPI4 AEmpty1 (0x1900)
|-----|
|-----| <-- SPI4 AFull 0 (0x3e80)
|-----| <-- SPI4 AFull 1 (0x4b00)
|-----|
```

```

|-----|<-- Buffer Full  (0x5780)
|       |
|-----|<-- Buffer End   (0x63ff)

```

This table describes the significant fields shown in the display.

**Table 3: show controllers plim asic ingress-channel bay Field Descriptions**

Field	Description
Ifname	Identifies the primary transmit interface.
SPI4.2 Channel state	Indicates if the SPI4.2 <sup>2</sup> channel is provisioned.
Bay number	Identifies the bay that hosts the specified SPI4.2 receive channel. Can be 0 or 1.
Rx SPI4.2 channel number	Identifies the SPI4.2 receive channel whose information is displayed.
Internal Buffer number	Identifies the internal buffer associated with the SPI4.2 receive channel.
Rx edram buffer start address	Embedded DRAM buffer start address in hexadecimal format.
Rx edram buffer end address	Embedded DRAM buffer end address in hexadecimal format.
Rx edram buffer size	Embedded DRAM buffer size in hexadecimal format.
Rx length buffer start address	Receive length buffer start address in hexadecimal format.
Rx length buffer end address	Receive length DRAM buffer end address in hexadecimal format.
Rx length buffer size	Receive length DRAM buffer size in hexadecimal format.
Number of calendar entries	Number of entries in the SPI4.2 calendar.
Quantum	Average number of bytes in the interface queue.
Buffer Almost Full Threshold	An increment counter which indicates that the transmit buffer is almost full. The "Buffer Almost Full Threshold" is expressed in hexadecimal format.
Tx Queuing ASIC port number	Identifies the SPI4.2 transmit port.
RxEDRAM buffer threshold settings	Displays embedded DRAM receive buffer threshold counter settings in hexadecimal format.

2 System Packet Level Interface 4.2

# show controllers plim ASIC spa bay

To display statistical information for the SPA ASIC, use the **show controllers plim ASIC spa bay** command in EXEC mode.

**show controllers plim ASIC spa bay** *bay-number* [**location** *node-id*]

## Syntax Description

<i>bay-number</i>	Displays information about the SPA in the specified bay. Range is from 1 through 3.
<b>location</b> <i>node-id</i>	Identifies the location of the SPA whose ASIC information you want to display. The <i>node-id</i> argument is expressed in the <i>rack/slot/module</i> notation.  <b>Note</b> Use the <b>show platform</b> command to see the location of all nodes installed in the router.

## Command Default

No default behavior or values

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.2	This command was introduced.
Release 3.5.0	The {0  1 } keywords were replaced with the <i>bay-number</i> argument.

## Usage Guidelines

### Task ID

Task ID	Operations
interface	read
root-system	read

## Examples

The following sample output is from the **show controllers plim ASIC spa bay** command:

```
RP/0/0/CPU0:router# show controllers plim ASIC spa bay 0 location 0/4/CPU0
                               SPA 0 table:
                               =====
SPA OIR state                   : present
SPA state                       : enabled
```

```

SPA allocated Rx buffer size : 4MB
SPA available Rx buffer size : 0x20c000
RxSPI PLL reset             : inactive
Header Format type          : Format A
Pad bytes                   : 0
L2LA                        : 0
Strict priority mode       : active
EFC Manager                 : disabled
SPA dual wide mode         : inactive
Max SPA channels            : 10
PLIM loopback               : inactive
SPI loopback                : inactive
DatamaxT                    : 4096
Training M                  : 16
DIP2 Match                  : 3
DIP2 Error                  : 3
Tx SClk edge                : falling
DIP4 Match                  : 15
DIP4 Error                  : 2
Rx SClk edge                : rising
SPI bus speed               : 350MHz
Tx Burst size               : 64 Bytes
Rx Burst size sysdb        : 80 Bytes
Rx SPI state                : enabled
Rx SPI sync state          : inframe
Rx calendar mode           : single
Maximun RxSPI channels     : 10
Tx SPI state                : enabled
Tx SPI sync state          : inframe
Tx calendar mode           : single
Maximun Tx SPI4.2 channels : 5

```

This table describes the significant fields shown in the display.

**Table 4: show controllers plim ASIC spa bay Field Descriptions**

Field	Description
SPA OIR state	Current OIR <sup>3</sup> status for this SPA.
SPA state	Current state of the specified SPA. Can be enabled or disabled.
SPA allocated Rx buffer size	Number of bytes allocated for the receive buffer.
SPA available Rx buffer size	Number of bytes available in the receive buffer.
RxSPI PLL reset	SPI PLL receive timer reset value.
Header Format type	Header format used by this ASIC.
Pad bytes	Number of pad bytes allowed to fill out the packets sent on this ASIC.
L2LA	Layer 2 Length Adjust. When a length entry has been read or is being written, this bit contains the value of the L2LA field.

Field	Description
Strict priority mode	Indicates whether strict priority mode is active or inactive on this SPA.  Strict priority mode ensures that the Priority Queue is serviced only when it is not empty. This provides the lowest possible delay for matching traffic.
EFC Manager	Indicates whether the EFC <sup>4</sup> manager is enabled or disabled on this SPA.
SPA dual wide mode	Indicates whether dual wide mode is active or inactive on this SPA.
Max SPA channels	Maximum channels supported on this SPA.
PLIM loopback	Indicates whether loopback is active or inactive on this SPA.
SPI loopback	Indicates whether SPI loopback is active or inactive on this SPA.
DatamaxT	Maximum data training interval. This is the maximum interval between scheduling of training sequences on the SPI <sup>5</sup> data path. If the DatamaxT field shows 0, then the core never sends periodic training.
Training M	Number of consecutive DIP2 <sup>6</sup> errors detected on the Tstat bus before the TxSPI module enters the out-of-frame state. This signal can be safely set at any time.
DIP2 Match	Total number of 2-bit DIP2 packets that met specific match clauses.  <b>Note</b> DIP2 is a parity algorithm where a 2-bit odd parity is computed diagonally over status words.
DIP2 Error	Total number of 2-bit DIP2 errors  <b>Note</b> DIP2 is a parity algorithm where a 2-bit odd parity is computed diagonally over status words.
Tx SClk edge	Indicates which edge of the transmit SClk to use to sample the Tstat bus. Selects rising or falling edge as the active transmit SClk edge.
DIP4 Match	Total number of 2-bit DIP4 packets that met specific match clauses.

Field	Description
Rx SClk edge	Indicates which edge of the receive SClk to use to sample the Tstat bus. Selects rising or falling edge as the active transmit SClk edge.
DIP4 Error	Total number of DIP4 errors. <b>Note</b> DIP4 is a parity algorithm where a 4-bit odd parity is computed diagonally over status words.
SPI bus speed	SPI bus speed in MHz <sup>7</sup> .
Tx Burst size	Committed burst size in bits for traffic transmitted on this SPA.
Rx Burst size sysdb	Committed burst size in bits for traffic received on this SPA.
Rx SPI state	Indicates whether receive SPI is enabled or disabled.
Rx SPI sync state	Indicates which parameter controls the synchronization behavior of the RXSPI module.
Rx calendar mode	Indicates which RXSPI status protocol will be used to transmit status.
Maximum RxSPI channels	Maximum number of SPI receive channels supported on this SPA.
Tx SPI state	Indicates whether transmit SPI is enabled or disabled.
Tx SPI sync state	Indicates which parameter controls the synchronization behavior of the TXSPI module.
Tx calendar mode	Indicates which TXSPI status protocol will be used to transmit status.
Maximum Tx SPI4.2 channels	Maximum number of SPI4.2 transmit channels supported on this SPA.

<sup>3</sup> online insertion and removal

<sup>4</sup> Extended Flow Control

<sup>5</sup> security policy index

<sup>6</sup> 2-bit Diagonal Interleaved Parity

<sup>7</sup> megahertz

## show controllers plim ASIC statistics

To display physical layer interface module (PLIM) ASIC statistics for a specific node or interface, use the **show controllers plim ASIC statistics** command in EXEC mode.

**show controllers plim ASIC statistics** {**interface** *type interface-path-id*} [**summary**] [**location** *node-id*]

### Syntax Description

<i>type</i>	Interface type. For more information, use the question mark ( ? ) online help function.
<i>interface-path-id</i>	Physical interface or virtual interface.  <b>Note</b> Use the <b>show interfaces</b> command to see a list of all interfaces currently configured on the router. For more information about the syntax for the router, use the question mark ( ? ) online help function.
<b>summary</b>	Displays a summarized information for PLIM ASICs on a specified node, or for all interfaces on the router.
<b>location</b> <i>node-id</i>	Identifies the location of the node whose PLIM ASIC information you want to display. The <i>node-id</i> argument is expressed in the <i>rack/slot/module</i> notation.  <b>Note</b> Use the <b>show platform</b> command to see the location of all nodes installed in the router.

### Command Default

No default behavior or values

### Command Modes

EXEC

### Command History

Release	Modification
Release 3.2	This command was introduced.

### Usage Guidelines

#### Task ID

Task ID	Operations
interface	read
root-system	read

**Examples**

The following example shows how to display PLIM ASIC statistics information for a POS interface:

```
RP/0/0/CPU0:router# show controllers plim ASIC statistics interface POS 0/2/0/0

Node: 0/2/CPU0
-----
POS0/2/0/0 Tx Statistics
-----
TotalOctets      : 78904040      TotalPkts        : 1622308
UnicastPkts     : 1622308        MulticastPkts    : 0
BroadcastPkts   : 0             <64Octets       : 1610433
64Octets        : 0             65to127Octets   : 11875
128to255Octets : 0             256to511Octets  : 0
512to1023Octets : 0           1024to1518Octets : 0
1519to1548Octets : 0         1549to9216Octets : 0
>9216Octet      : 0             BadCRCPkts      : 0
802.1QPkts     : 0             Underrun        : 0
Runt            : 0             Giant           : 0
PausePkts      : 0             Jabbers         : 0
DeferralAbort  : 0             LateCollision   : 0
CollisionAbort : 0             OneCollision    : 0
MultiCollision : 0             TotalCollisions : 0
TotalDefer     : 0             LateCollisionAbort : 0
LengthAbort    : 0             TxBP count     : 0

POS0/2/0/0 Rx Statistics
-----
--More-- failed to get stats
TotalOctets      : 91010808
TotalPkts        : 1815571      UnicastPkts     : 1815571
MulticastPkts    : 0           BroadcastPkts    : 0
64Octets         : 63846       65to127Octets   : 11844
128to255Octets  : 7           256to511Octets  : 0
512to1023Octets : 0           1024to1518Octets : 0
1519to1548Octets : 0         1549to9216Octets : 0
>9216Octets     : 0           BadCRCPkts      : 0
BadCodedPkts    : 0           Runt            : 0
ShortPkts       : 1739874      802.1QPkts     : 0
Drop            : 0           PausePkts       : 0
ControlPkts     : 0           Jabbers         : 0
BadPreamble     : 0

POS0/2/0/0 Drop
-----
RxFIFO Drop      : 0           PAR Tail Drop   : 0
TxFIFO Drop      : 0
```

This table describes the significant fields shown in the display.

**Table 5: show controllers plim ASIC statistics Field Descriptions**

Field	Description
TotalOctets	Number of octets received or transmitted on the interface.
TotalPkts	Number of total packets received or transmitted on the interface.
UnicastPkts	Number of unicast packets received or transmitted on the interface.

Field	Description
MulticastPkts	Number of multicast packets received or transmitted on the interface. Received packets were directed to the multicast address.
BroadcastPkts	Number of good broadcast packets received or transmitted. Received packets were directed to the broadcast address.
64Octets	Number of packets (including bad packets) received or transmitted that were less than 64 octets in length (excluding framing bits but including FCS octets).
64Octets	Number of packets (including bad packets) received or transmitted that were 64 octets in length (excluding framing bits but including FCS octets).
65to127Octets	Number of packets (including bad packets) received or transmitted that were between 65 and 127 octets in length inclusive (excluding framing bits but including FCS octets).
128to255Octets	Number of packets (including bad packets) received or transmitted that were between 128 and 255 octets in length inclusive (excluding framing bits but including FCS octets).
256to511Octets	Number of packets (including bad packets) received or transmitted that were between 256 and 511 octets in length inclusive (excluding framing bits but including FCS octets).
512to1023Octets	Number of packets (including bad packets) received or transmitted that were between 512 and 1023 octets in length inclusive (excluding framing bits but including FCS octets).
1024to1518Octets	Number of packets (including bad packets) received or transmitted that were between 1024 and 1518 octets in length inclusive (excluding framing bits but including FCS octets).
1519to1548Octets	Number of packets (including bad packets) received or transmitted that were between 1519 and 1548 octets in length inclusive (excluding framing bits but including FCS octets).

Field	Description
1549to9216Octets	Number of packets (including bad packets) received or transmitted that were between 1549 and 9216 octets in length inclusive (excluding framing bits but including FCS octets).
>9216Octet	Number of packets (including bad packets) received or transmitted that were greater than 9216 octets in length (excluding framing bits but including FCS octets).
BadCRCPkts	Number of packets received or transmitted that had a length (excluding framing bits, but including FCS octets) of between 64 and 1518 octets, inclusive, but had either a bad Frame Check Sequence (FCS) with an integral number of octets (FCS error) or a bad FCS with a non integral number of octets (alignment error).
802.1QPkts	Number of 802.1QPkts received or transmitted on the interface.
Underrun	Number of packets that were not retrieved quickly enough from shared memory to be transmitted or received.
Runt	Number of packets received or transmitted that were less than 64 octets long (excluding framing bits, but including FCS octets) and were otherwise well formed.
Giant	Number of packets received or transmitted that were longer than 1518 octets (excluding framing bits, but including FCS octets) and were otherwise well formed.
PausePkts	Number of pause packets transmitted/received on the interface. Pause packets that tell remote devices to delay sending more packets for a specified period of time.
Jabbers	Number of packets received or transmitted that were longer than 1518 octets (excluding framing bits but including FCS octets) and had either a bad Frame Check Sequence (FCS) with an integral number of octets (FCS error) or a bad FCS with a non-integral number of octets (assigned error).
DeferralAbort	Number of deferral aborts that occurred on this segment.

Field	Description
LateCollision	Number of late collisions on this segment
CollisionAbort	Number of collisions that were aborted.
OneCollision	Number of single collisions that occurred on this segment.
MultiCollision	Number multiple collisions that occurred on this segment.
TotalCollisions	Number of collisions on this segment.
TotalDefer	Number of deferrals on this segment.
LateCollisionAbort	Number of late collision aborts that occurred on this segment.
LengthAbort	Number of length aborts that occurred on this segment.
TxBP count	Number of transmit BP on this segment.
Rx Statistics	Indicates the statistics that follow were received by the interface.
TX statistics	Indicates the statistics that follow were transmitted by the interface.
RxFIFO Drop	Displays the receive FIFO drop information.
PAR Tail Drop	Displays PAR tail drop information.
TxFIFO Drop	Displays transmitted FIFO drop information.

# show controllers plim asic SPAQFPBridgeCtrl

To display physical layer interface module (PLIM) asic Shared Port Adapter Quantum Flow Processor bridge control (SPAQFPBridgeCtrl) driver information, use the **show controllers plim asic SPAQFPBridgeCtrl** command in EXEC mode.

```
show controllers plim asic SPAQFPBridgeCtrl {counters| ingress-channel| egress-channel| spa}
```

## Syntax Description

<b>counters</b>	Displays information regarding the counters.
<b>ingress-channel</b>	Displays information regarding the receiving SPI4.2 channel.
<b>egress-channel</b>	Displays information regarding the transmitting SPI4.2 channel.
<b>spa</b>	Displays SPA (Shared Port Adapters) information.

## Command Default

No default behavior or values

## Command Modes

EXEC

## Command History

Release	Modification
Release 4.0.0	This command was introduced.

## Usage Guidelines

### Task ID

Task ID	Operations
interface	read
root-system	read

## Examples

The following example shows how to display summarized PLIM ASIC SPAQFPBridgeCtrl driver information:

```
RP/0/RP00/CPU0router# show controllers plim asic SPAQFPBridgeCtrl
1
```

# show controllers plim asic summary

To display summarized physical layer interface module (PLIM) ASIC information for a specific node or interface, use the **show controllers plim asic** command in EXEC mode.

**show controllers plim asic summary** [*location node-id*]

## Syntax Description

<b>location</b> <i>node-id</i>	Identifies the location of the node whose PLIM ASIC information you want to display. The <i>node-id</i> argument is expressed in the <i>rack/slot/module</i> notation.
<b>Note</b>	Use the <b>show platform</b> command to see the location of all nodes installed in the router.

## Command Default

No default behavior or values

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.2	This command was introduced.

## Usage Guidelines

### Task ID

Task ID	Operations
interface	read
root-system	read

## Examples

The following example shows how to display summarized PLIM ASIC information for all locations:

```
RP/0/0/CPU0:router# show controllers plim asic summary

Node: 0/1/CPU0
-----
Instance# 0   Summary info:
-----
Name          : PLASPA   Version   : 2

Port 0
Jacket slot: 1           SPA type  : SPA_NAME_UNKNOWN
Port 1
Jacket slot: 3           SPA type  : SPA_NAME_UNKNOWN
Port 2
```

```

Jacket slot: 0          SPA type : 4xOC3 POS SPA

Instance# 1    Summary info:
-----
Name          : PLASPA    Version   : 2

Port 0
Jacket slot: 2          SPA type : SPA_NAME_UNKNOWN
Port 1
Jacket slot: 4          SPA type : 4xOC48 POS/RPR HHSPA
Port 2
Jacket slot: 5          SPA type : 8xGE SPA

IFName       : POS0/1/0/0
Inst#        : 0          Port        : 2
RxLPORT      : 0x80      TxLPORT   : 0x48
Ufdb         : 0x2       Key          : 0x80
Hkey         : 209       Hkey idx  : 0

IFName       : POS0/1/0/1
Inst#        : 0          Port        : 2
RxLPORT      : 0x81      TxLPORT   : 0x49
Ufdb         : 0x4       Key          : 0x81
Hkey         : 28        Hkey idx  : 0

IFName       : POS0/1/0/2
Inst#        : 0          Port        : 2
RxLPORT      : 0x82      TxLPORT   : 0x4a
Ufdb         : 0x6       Key          : 0x82
Hkey         : 183       Hkey idx  : 0
    
```

This table describes the significant fields shown in the display.

**Table 6: show controllers plim asic summary Field Descriptions**

Field	Description
Node	Node whose information is displayed. Information is displayed for each node's SPA and its interfaces.
Instance	PLIM ASIC identifier. This is the PLIM ASIC associated with the specified location.
Summary info (for SPA)	<p>Displays the following info for all SPAs installed in the router:</p> <ul style="list-style-type: none"> <li>• Name—Identifies the SPA whose information is displayed.</li> <li>• Version—Version identifier for the PLIM ASIC.</li> <li>• Jacket slot—Identifies the slot containing the jacket card for the specified SPA.</li> <li>• SPA type —Describes the SPA whose information is displayed.</li> <li>• Port—Port associated with the PLIM ASIC.</li> <li>• Inst#—SPA ASIC instance Identifier.</li> </ul>

Field	Description
Summary info (for interfaces)	<p>Displays the following info for all interfaces associated with the specified SPA:</p> <ul style="list-style-type: none"> <li>• Intf name—Identifies the SPA whose information is displayed.</li> <li>• Inst#—ASIC associated with this interface.</li> <li>• Port—Port associated with the PLIM ASIC.</li> <li>• RxLPORT—Receive port, in hexadecimal format.</li> <li>• TxLPORT—Transmit port, in hexadecimal format.</li> <li>• Uidb—UIDB<sup>8</sup> assigned by the software, in hexadecimal format.</li> <li>• Key—AISC key, in hexadecimal format.</li> <li>• Hkey—ASIC registry key.</li> <li>• Hkey idx—ASIC registry key index.</li> </ul>

<sup>8</sup> Universal interface descriptor block

# show controllers pse

To display packet switching engine (PSE) information in the egress or the ingress stage, use the **show controllers pse egress** command in EXEC mode.

```
show controllers pse {egress| ingress} {gather| precam| statistics}
```

## Syntax Description

<b>gather</b>	Displays gather stage programming information.
<b>precam</b>	Displays precam stage programming information.
<b>statistics</b>	Displays microcode statistics.

## Command Default

No default behavior or values

## Command Modes

EXEC  
Administrator EXEC

## Command History

Release	Modification
Release 4.0.0	This command was introduced.

## Usage Guidelines

### Task ID

Task ID	Operations
interface	read
drivers	read

## Examples

The following command shows how to use the **show controllers pse** command:

```
RP/0/0/CPU0:router# show controllers pse egress gather
```

# show controllers pse mem

To display external memory information for the packet switching engine (PSE), use the **show controllers pse mem** command in EXEC mode.

**show controllers pse mem** {csram| sram| plu| tlu| trace}

## Syntax Description

<b>csram</b>	Displays the custom static random access memory (CSRAM) information.
<b>sram</b>	Displays the static random access memory (SRAM) information.
<b>plu</b>	Displays the pointer lookup (PLU) memory information.
<b>tlu</b>	Displays the table lookup (TLU) memory information.
<b>trace</b>	Displays the trace data for the external memory component.

## Command Default

No default behavior or values

## Command Modes

EXEC

## Command History

Release	Modification
Release 4.0.0	This command was introduced.

## Usage Guidelines

### Task ID

Task ID	Operations
interface	read
drivers	read

## Examples

The following command shows how to use the **show controllers pse mem** command:

```
RP/0/RP0/CPU0:router# show controllers pse mem
```

# show controllers pse statistics

To display packet switching engine (PSE) statistics for a specific controller instance, or for a specific node, use the **show controllers pse statistics** command in EXEC mode.

```
show controllers pse statistics [all] [egress|ingress] [location node-id]
```

## Syntax Description

<b>all</b>	(Optional) Displays all counters.
<b>egress</b>	(Optional) Displays statistics for the egress PSE device only. <b>Note</b> Follow the <b>egress</b> argument with the <b>location node-id</b> keyword and argument to restrict the command to a specific node.
<b>ingress</b>	(Optional) Displays statistics for the ingress PSE device only. <b>Note</b> Follow the <b>ingress</b> argument with the <b>location node-id</b> keyword and argument to restrict the command to a specific node.
<b>location node-id</b>	(Optional) Identifies the location of the node whose PSE device information you want to display. The <i>node-id</i> argument is expressed in the <i>rack/slot/module</i> notation. <b>Note</b> Use the <b>show platform</b> command to see the location of all nodes installed in the router. <b>Note</b> Include the <b>egress</b> or <b>ingress</b> keyword before the <b>location node-id</b> keyword and argument to restrict the command to a specific device instance on the specified node.

## Command Default

If you do not specify the **egress** or **ingress** and **location node-id** keywords and argument, the **show controllers pse statistics** command displays statistical information for both device instances on all modular services cards.

## Command Modes

EXEC

## Command History

Release	Modification
Release 2.0	This command was introduced.
Release 3.5.0	The <b>instance { 0   1 }</b> keywords were replaced by the <b>egress</b> and <b>ingress</b> keywords.
Release 3.6.0	The <b>all</b> keyword was changed from required to optional.

## Usage Guidelines

The optional **egress** or **ingress** and **location** keywords are not mutually exclusive. The **egress** and **ingress** keywords direct the command to specific PSE device, and the **location** keyword directs the command to that

device or devices on the specified modular services card. You can specify the **egress** or **ingress** and **location** options together in the same command. If you do not specify the **egress** or **ingress** and **location node-id** keywords and argument, the **show controllers pse statistics** command displays statistical information for both device instances on all modular services cards.

**Task ID**

Task ID	Operations
interface	read
drivers	read

**Examples**

The following command shows how to display PSE statistics:

```
RP/0/0/CPU0:router# show controllers pse statistics
```

```
Node 0/0/CPU0 Ingress PSE Stats
```

```
-----
```

Punt Stats	Punted	Policed & Dropped
-----	-----	-----
L2 low priority	8383	0
L2 control	133708	0
CDP	145926	0
ARP	8389	0
Bundle Control	156877	0
IPv4 TTL expiration	39179	0
IPv4 BFD async	128348286	0
IPv4 BFD echo	6543965	0
ACL log	39142667	0
IPv6 link local	511927	0
IPv6 BFD async	1380652214	0
EOAM CFM CCM pkts	57390870	0
EOAM EFM pkts	956527	0
SPA IPC punt	2551214	0

Drop Stats	Dropped
-----	-----
IFIB policer drop	225
Service lookup miss	2137
IPv4 not enabled	1
IPv4 interface down	5
IPv4 MC not enabled	60380
IPv6 not enabled	1
EOAM EFM feature disable drop	176

Debug Stats	Count
-----	-----
PPE idle counter	84330433181953

```
Node 0/0/CPU0 Egress PSE Stats
```

```
-----
```

Punt Stats	Punted	Policed & Dropped
-----	-----	-----
IPv4 L2LI punt	1	0
ACL log	1	0
IPv6 L2LI punt	9	0

Drop Stats	Dropped
-----	-----
Pre-route no adjacency in PIT	8

```

Debug Stats                               Count
-----
PPE idle counter                          84334688870964
Recirculate UIDB index                    31864

```

The following command shows how to display PSE statistics for a specific controller instance:

```
RP/0/0/CPU0:router# show controllers pse statistics instance 0
```

```

Node 0/0/CPU0 Ingress PSE Stats
-----
Punt Stats                               Punted           Policed & Dropped
-----
L2 low priority                          8383             0
L2 control                               133708           0
CDP                                       145932           0
ARP                                       8389             0
Bundle Control                           156883           0
IPv4 TTL expiration                      39182            0
IPv4 BFD async                           128354734        0
IPv4 BFD echo                             6543965          0
ACL log                                   39144634         0
IPv6 link local                          511927           0
IPv6 BFD async                           1380721157       0
EOAM CFM CCM pkts                        57393762         0
EOAM EFM pkts                            956575           0
SPA IPC punt                             2551214          0

Drop Stats                               Dropped
-----
IFIB policer drop                        225
Service lookup miss                      2137
IPv4 not enabled                          1
IPv4 interface down                      5
IPv4 MC not enabled                      60385
IPv6 not enabled                          1
EOAM EFM feature disable drop            176

Debug Stats                               Count
-----
PPE idle counter                          84334518624455

```

This table describes the significant fields shown in the display.

**Table 7: show controllers pse statistics Field Descriptions**

Field	Description
Node	Identifies the node whose PSE statistics are displayed. The node ID is expressed in the <i>rack/slot/module</i> notation.
PSE 0, Statistics Info	Displays all statistics maintained by the PSE.

## Related Commands

Command	Description
<a href="#">show controllers pse summary</a>	Displays a summary of packet switching engine information for a specific controller or node.

# show controllers pse qfp statistics

To display packet switching engine (PSE) quad flat package (QFP) statistics for a specific node, use the **show controllers pse qfp statistics** command in EXEC mode.

**show controllers pse qfp statistics** [**drop**| **summary**] [**location** *node-id*]

## Syntax Description

<b>drop</b>	(Optional) Displays the global drop statistics for the PSE QFP device. <b>Note</b> Follow the <b>drop</b> keyword with the <b>location</b> <i>node-id</i> keyword and argument to restrict the command to a specific node.
<b>summary</b>	(Optional) Displays the global statistics summary for the PSE QFP device. <b>Note</b> Follow the <b>summary</b> keyword with the <b>location</b> <i>node-id</i> keyword and argument to restrict the command to a specific node.
<b>location</b> <i>node-id</i>	(Optional) Identifies the location of the node whose PSE device information you want to display. The <i>node-id</i> argument is expressed in the <i>rack/slot/module</i> notation. <b>Note</b> Use the <b>show platform</b> command to see the location of all nodes installed in the router.

## Command Default

None.

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.9.0	This command was introduced.

## Usage Guidelines

### Task ID

Task ID	Operations
interface	read
cisco-support	read

## Examples

The following command shows how to display PSE QFP statistics:

```
RP/0/0/CPU0:router# show controllers pse qfp statistics summary location 0/1/cpu0
```

```
Summary of Statistics for QFP 0
  Dropped packets: 0
  Incoming packets: 0
  Outgoing packets: 0
  Incoming IPC packets: 0
  Outgoing IPC packets: 0
  Punted packets: 0
  Injected packets: 0

Summary of Statistics for QFP 1
  Dropped packets: 0
  Incoming packets: 0
  Outgoing packets: 0
  Incoming IPC packets: 0
  Outgoing IPC packets: 0
  Punted packets: 0
  Injected packets: 0
```

## show controllers pse qfp system state

To display packet switching engine (PSE) QFP HA state information for a specific node, use the **show controllers pse qfp system state** command in EXEC mode.

**show controllers pse qfp system state** [*location node-id*]

### Syntax Description

<b>location</b> <i>node-id</i>	(Optional) Identifies the location of the node whose PSE device information you want to display. The <i>node-id</i> argument is expressed in the <i>rack/slot/module</i> notation.
<b>Note</b>	Use the <b>show platform</b> command to see the location of all nodes installed in the router.

### Command Default

None.

### Command Modes

EXEC

### Command History

Release	Modification
Release 3.9.0	This command was introduced.

### Usage Guidelines

#### Task ID

Task ID	Operations
interface	read
cisco-support	read

### Examples

The following command shows how to run the **show controllers pse qfp system state** command:

```
RP/0/0/CPU0:router# show controllers pse qfp system state location 0/1/cpu0
```

# show controllers pse uidb

To display the user interface database (UIDB) information in the packet switching engine (PSE), use the **show controllers pse uidb** command in EXEC mode.

**show controllers pse uidb trace**

Syntax Description	trace	Displays the trace data for the UIDB component.
--------------------	-------	---

**Command Default** No default behavior or values

**Command Modes** EXEC

Command History	Release	Modification
	Release 4.0.0	This command was introduced.

## Usage Guidelines

Task ID	Task ID	Operations
	interface	read
	cisco-support	read

**Examples** The following command shows how to use the **show controllers pse uidb** command:

```
RP/0/RP0/CPU0:router# show controllers pse uidb trace
```

# show packet-memory

To display information for packet memory, use the **show packet-memory** command in EXEC mode.

**show packet-memory** [**clients**| **corrupt**| **failures**| **hssd**| **ifinput**| **ifoutput**| **internal**| **inuse**| **job**| **mutex**| **old**| **reserved**| **summary**| **trace**| **watch**] [**location** *node-id*]

## Syntax Description

<b>clients</b>	(Optional) Displays the packet manager clients.
<b>corrupt</b>	(Optional) Displays the information about corrupted packets.
<b>failures</b>	(Optional) Displays the packet buffer, header, hardware buffer allocation failures.
<b>hssd</b>	(Optional) Displays High Speed Small Data (HSSD).
<b>ifinput</b>	(Optional) Displays packets from a specific interface.
<b>ifoutput</b>	(Optional) Displays packets to a specific interface.
<b>internal</b>	(Optional) Displays the packet memory along with actual number of particles in free list.
<b>inuse</b>	(Optional) Displays the total number of packets in use
<b>job</b>	(Optional) Displays the number of packets owned by a specific process.
<b>mutex</b>	(Optional) Displays the pakman mutex monitoring configuration.
<b>old</b>	(Optional) Displays the total number of packets older than one minute.
<b>reserved</b>	(Optional) Displays the reserved memory information.
<b>summary</b>	(Optional) Displays the packet memory usage summary information.
<b>trace</b>	(Optional) Displays the packet-memory traces.
<b>watch</b>	(Optional) Displays the pakman watch configuration.
<b>location</b> <i>node-id</i>	(Optional) Displays detailed packet memory information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Default

Displays information about all packet memory.

## Command Modes

EXEC

**Command History**

Release	Modification
Release 3.0	This command was introduced.
Release 3.9.0	Included the following keywords: <ul style="list-style-type: none"> <li>• clients</li> <li>• corrupt</li> <li>• failures</li> <li>• fsv</li> <li>• hssd</li> <li>• ifinput</li> <li>• ifoutput</li> <li>• internal</li> <li>• inuse</li> <li>• job</li> <li>• mutex</li> <li>• old</li> <li>• reserved</li> <li>• summary</li> <li>• trace</li> <li>• watch</li> </ul>

**Usage Guidelines**

The **show packet-memory** command can be used to display the total number of packet and particle headers, along with the packet memory that is currently allocated in the system.

**Task ID**

Task ID	Operations
basic-services	read

**Examples**

The following example shows how to display packet memory information:

```
RP/0/0/CPU0:router# show packet-memory

Packet memory statistics :
=====
Packet headers
```

```

total: 32000, free: 32000, size: 448
Particle Pools(8)
Pool(0):total: 8000, free: 8000, size: 256
fallback: 0, region: 0
Pool(1):total: 4000, free: 3968, size: 512
fallback: 1, region: 0
Pool(2):total: 16, free: 16, size: 512
fallback: 2, region: 0
Pool(3):total: 8000, free: 7936, size: 768
fallback: 3, region: 0
Pool(4):total: 12800, free: 9172, size: 1648
fallback: 4, region: 0
Pool(5):total: 320, free: 320, size: 2560
fallback: 5, region: 0
Pool(6):total: 1600, free: 1088, size: 4608
fallback: 6, region: 0
Pool(7):total: 640, free: 640, size: 6240
fallback: 7, region: 0
Particle clone
total: 8000, free: 8000, size: 256
Packet Feature Specific Variable (FSV)
total: 16000, free: 16000, size: 88
Packet trace
total: 16384, free: 16384, size: 40

```

This table describes the significant fields shown in the display.

**Table 8: show packet memory Field Descriptions**

Field	Description
Packet headers	Data structure that defines and controls an aggregation of data structures, collectively known as a packet. Includes information about every packet in the system.
Particle Pools	Data structure that describes a particle and may be chained to other particles in a linked list. Includes information about the actual data of the packet and other particle headers in this packet if present in this packet.
Particle clone	Duplicate particle header that points to a previously allocated particle. Differs from a particle header in that a particle clone shares the particle with another particle header.
Packet Feature Specific Variable (FSV)	Scratch pad shared among the features in the packet path, listing hangs of the packet header.
Packet trace	Data associated with the packet header to help tracing a packet in the system.



## Troubleshooting Commands

---

This module describes commands used for troubleshooting routers running Cisco IOS XR software.

The commands in this chapter with the cisco-support task ID are used in the *Cisco IOS XR Troubleshooting Guide for Cisco XR 12000 Series Router* as part of the troubleshooting process. For information about commands with the cisco-support task ID that are not documented in this chapter, please contact Cisco Technical Support.



### Caution

---

These Cisco support commands are normally reserved for use by Cisco Technical Support personnel only. There is some risk that they may cause performance or other issues that impact products without proper usage, and we highly recommend that you contact Cisco Technical Support prior to using any of these commands.

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- [show arp trace](#) , page 35
- [show captured packets](#), page 39
- [show cfmgr trace](#) , page 41
- [show im database](#), page 43
- [show imds interface brief](#) , page 47
- [show netio chains](#), page 49
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- [show tbn hardware](#) , page 76
- [show uidb data](#), page 79
- [show uidb trace](#), page 82
- [show uidb index](#) , page 85
- [watchdog threshold memory](#), page 88

# show arp trace

To display Address Resolution Protocol (ARP) entries in the buffer, use the **show arp trace** command in EXEC mode.

**show arp trace**

**Syntax Description** This command has no keywords or arguments.

**Command Default** No default behavior or values

**Command Modes** EXEC

Release	Modification
Release 3.2	This command was introduced.

**Usage Guidelines** Use the **show arp trace** command to display ARP entries in the buffer.

Task ID	Operations
cisco-support	read

**Examples** The following example shows the output of the **show arp trace** command:

```
RP/0/0/CPU0:router# show arp trace events
Tue Nov 10 04:13:22.766 PST

22 unique entries (4096 possible, 54 filtered)
Nov  5 19:48:27.624 ipv4_arp/slow 0/RP0/CPU0 1# t1 ARP-EVENT: Repopulating AIB
Nov  5 19:48:49.768 ipv4_arp/slow 0/RP0/CPU0 1# t1 ARP-DEV-EVENT: Unbinding frs
Nov  5 19:49:01.590 ipv4_arp/slow 0/RP0/CPU0 1# t1 ARP-EVENT: IM ORE received
Nov  5 19:54:12.448 ipv4_arp/slow 0/RP0/CPU0 5# t1 ARP-EVENT: Processing MAC c3
Nov  5 19:54:12.467 ipv4_arp/slow 0/RP0/CPU0 5# t1 ARP-EVENT: Interface attrib2
Nov  5 19:54:12.555 ipv4_arp/fast 0/RP0/CPU0 10# t1 ARP-EVENT: received interf3
Nov  5 19:54:12.595 ipv4_arp/fast 0/RP0/CPU0 5# t1 ARP-EVENT: Copying MAC addr3
Nov  5 19:54:12.614 ipv4_arp/fast 0/RP0/CPU0 6# t1 ARP-EVENT: Received VLAN ID)
Nov  5 19:54:12.614 ipv4_arp/fast 0/RP0/CPU0 3# t1 ARP-EVENT: Processing VLAN )
Nov  5 19:54:15.434 ipv4_arp/slow 0/RP0/CPU0 5# t1 ARP-EVENT: Interface not up0
Nov  5 19:54:15.437 ipv4_arp/slow 0/RP0/CPU0 1# t3 ARP-EVENT: IMP caps add suc0
Nov  5 19:54:15.581 ipv4_arp/fast 0/RP0/CPU0 5# t1 ARP-EVENT: Completing IDB i0
Nov  5 19:54:15.673 ipv4_arp/slow 0/RP0/CPU0 1# t1 ARP-EVENT: interface_entry 0
Nov  5 19:54:15.793 ipv4_arp/pkt 0/RP0/CPU0 1# t1 ARP-EVENT: Discarding arp pa2
Nov  5 19:57:22.531 ipv4_arp/fast 0/RP0/CPU0 4# t1 ARP-EVENT: received DPC for1
Nov  5 21:30:08.234 ipv4_arp/slow 0/RP0/CPU0 9# t1 ARP-EVENT: clearing ARP AIB1
```

## show arp trace

```

Nov 5 21:46:04.169 ipv4_arp/slow 0/RP0/CPU0 18# t1 ARP-EVENT: updating arp-id)
Nov 5 21:46:04.169 ipv4_arp/slow 0/RP0/CPU0 9# t1 ARP-EVENT: adding ARP AIB e1
Nov 5 21:46:04.316 ipv4_arp/fast 0/RP0/CPU0 18# t1 ARP-EVENT: Interface Bundlp
Nov 6 17:03:53.443 ipv4_arp/pkt 0/RP0/CPU0 3# t1 PROBE: Timer expired on Mgmt1
Nov 6 17:04:23.052 ipv4_arp/pkt 0/RP0/CPU0 3# t1 PROBE: MgmtEth0/RP0/CPU0/0 eE
Nov 6 17:23:16.156 ipv4_arp/slow 0/RP0/CPU0 46# t1 ARP-EVENT: updated aib ent0
160 wrapping entries (4096 possible, 805 filtered, 965 total)
Nov 5 19:48:27.771 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: Repopulating AIB
Nov 5 19:48:49.915 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-DEV-EVENT: Unbinding from s
Nov 5 19:49:01.737 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: IM ORE received
Nov 5 19:49:01.761 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Copying MAC address0
Nov 5 19:49:01.761 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: Interface attribute2
Nov 5 19:49:01.761 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: Processing MAC chan6
Nov 5 19:49:01.769 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: received interface 0
Nov 5 19:49:01.769 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: received interface 0
Nov 5 19:54:12.258 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: received interface 8
Nov 5 19:54:12.258 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: received interface 8
Nov 5 19:54:12.294 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Copying MAC address8
Nov 5 19:54:12.294 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: Interface attribute2
Nov 5 19:54:12.294 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: Processing MAC chan3
Nov 5 19:54:12.555 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: received interface 1
Nov 5 19:54:12.555 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: received interface 2
Nov 5 19:54:12.555 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: received interface 3
Nov 5 19:54:12.555 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: received interface 1
Nov 5 19:54:12.555 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: received interface 2
Nov 5 19:54:12.555 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: received interface 3
Nov 5 19:54:12.595 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Copying MAC address1
Nov 5 19:54:12.595 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Copying MAC address2
Nov 5 19:54:12.595 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Copying MAC address3
Nov 5 19:54:12.595 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Received VLAN ID no)
Nov 5 19:54:12.595 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Received VLAN ID no)
Nov 5 19:54:12.595 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Received VLAN ID no)
Nov 5 19:54:12.595 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: Interface attribute2
Nov 5 19:54:12.595 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: Processing MAC chan3
Nov 5 19:54:12.595 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: Processing MAC chan3
Nov 5 19:54:12.595 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: Processing MAC chan3
Nov 5 19:54:12.595 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: Interface attribute2
Nov 5 19:54:12.614 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Received VLAN ID no)
Nov 5 19:54:12.614 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Processing VLAN ID )
Nov 5 19:54:12.614 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Received VLAN ID no)
Nov 5 19:54:12.614 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Processing VLAN ID )
Nov 5 19:54:12.614 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Received VLAN ID no)
Nov 5 19:54:12.614 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Processing VLAN ID )
Nov 5 19:54:12.614 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: Interface attribute2
Nov 5 19:54:12.692 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface Bundle-Etn
Nov 5 19:54:12.692 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface Bundle-Etn
Nov 5 19:54:12.692 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface Bundle-Etn
Nov 5 19:54:12.692 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface Bundle-Etn
Nov 5 19:54:12.692 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-idb ip)
Nov 5 19:54:12.692 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: clearing ARP AIB en8
Nov 5 19:54:12.692 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-idb ip)
Nov 5 19:54:12.692 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: clearing ARP AIB en1
Nov 5 19:54:12.692 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-idb ip)
Nov 5 19:54:12.692 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: clearing ARP AIB en2
Nov 5 19:54:12.692 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-idb ip)
Nov 5 19:54:12.692 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: clearing ARP AIB en3
Nov 5 19:54:12.749 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Completing IDB ifh:8
Nov 5 19:54:12.749 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Completing IDB ifh:1
Nov 5 19:54:12.749 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Completing IDB ifh:2
Nov 5 19:54:12.749 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Completing IDB ifh:3
Nov 5 19:54:12.749 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: Interface not up ca8
Nov 5 19:54:12.749 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: Interface not up ca1
Nov 5 19:54:12.749 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: Interface not up ca2
Nov 5 19:54:12.749 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: Interface not up ca3
Nov 5 19:54:15.567 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface MgmtEth0/n
Nov 5 19:54:15.567 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-idb ip)
Nov 5 19:54:15.567 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: clearing ARP AIB en0
Nov 5 19:54:15.581 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Completing IDB ifh:0
Nov 5 19:54:15.581 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: Interface not up ca0
Nov 5 19:54:15.584 ipv4_arp/slow 0/RP0/CPU0 t3 ARP-EVENT: IMP caps add sucee0
Nov 5 19:54:15.793 ipv4_arp/pkt 0/RP0/CPU0 t1 ARP-EVENT: Discarding arp packe2
Nov 5 19:54:15.819 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface MgmtEth0/p
Nov 5 19:54:15.819 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-idb ip)

```

```

Nov 5 19:54:15.819 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: adding ARP AIB entr0
Nov 5 19:54:15.820 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 19:54:15.820 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: interface entry (170
Nov 5 19:57:21.623 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 19:57:22.463 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: received DPC for if8
Nov 5 19:57:22.531 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: received DPC for if3
Nov 5 19:57:22.531 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: received DPC for if2
Nov 5 19:57:22.531 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: received DPC for if1
Nov 5 19:57:29.136 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 20:27:42.950 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 20:27:42.969 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 20:27:43.202 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 20:27:54.590 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 20:30:38.679 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 20:30:38.943 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 20:30:45.788 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 20:30:46.342 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 20:30:46.458 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 20:32:57.516 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 20:33:38.988 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface Bundle-Etp
Nov 5 20:33:38.988 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-ldb ip)
Nov 5 20:33:38.988 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: adding ARP AIB entr8
Nov 5 20:33:39.065 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface Bundle-Etp
Nov 5 20:33:39.065 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface Bundle-Etp
Nov 5 20:33:39.065 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface Bundle-Etp
Nov 5 20:33:39.065 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-ldb ip)
Nov 5 20:33:39.065 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: adding ARP AIB entr3
Nov 5 20:33:39.065 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-ldb ip)
Nov 5 20:33:39.065 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: adding ARP AIB entr2
Nov 5 20:33:39.065 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-ldb ip)
Nov 5 20:33:39.065 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: adding ARP AIB entr1
Nov 5 20:41:37.128 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 20:41:37.144 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 21:23:17.059 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 21:23:18.347 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 21:26:41.271 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 21:30:08.361 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface Bundle-Etn
Nov 5 21:30:08.361 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-ldb ip)
Nov 5 21:30:08.361 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: clearing ARP AIB en8
Nov 5 21:30:08.367 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface Bundle-Etn
Nov 5 21:30:08.367 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-ldb ip)
Nov 5 21:30:08.367 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: clearing ARP AIB en3
Nov 5 21:30:08.373 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface Bundle-Etn
Nov 5 21:30:08.373 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-ldb ip)
Nov 5 21:30:08.373 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: clearing ARP AIB en2
Nov 5 21:30:08.381 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface Bundle-Etn
Nov 5 21:30:08.381 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-ldb ip)
Nov 5 21:30:08.381 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: clearing ARP AIB en1
Nov 5 21:46:04.302 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface Bundle-Etp
Nov 5 21:46:04.302 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-ldb ip)
Nov 5 21:46:04.302 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: adding ARP AIB entr8
Nov 5 21:46:04.316 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface Bundle-Etp
Nov 5 21:46:04.316 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface Bundle-Etp
Nov 5 21:46:04.316 ipv4_arp/fast 0/RP0/CPU0 t1 ARP-EVENT: Interface Bundle-Etp
Nov 5 21:46:04.316 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-ldb ip)
Nov 5 21:46:04.316 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: adding ARP AIB entr3
Nov 5 21:46:04.316 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-ldb ip)
Nov 5 21:46:04.316 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: adding ARP AIB entr2
Nov 5 21:46:04.316 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updating arp-ldb ip)
Nov 5 21:46:04.316 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: adding ARP AIB entr1
Nov 5 22:39:30.728 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 23:32:03.427 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 23:32:03.625 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 23:33:37.230 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 23:33:37.765 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 23:35:13.706 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 23:35:45.392 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 23:43:24.043 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 23:45:39.659 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 23:56:36.519 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 23:56:47.521 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 23:56:54.402 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 23:57:12.595 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0

```

show arp trace

```

Nov 5 23:57:22.204 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 5 23:57:23.449 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 6 00:10:29.938 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 6 00:15:14.864 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 6 00:20:46.274 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 6 00:22:13.307 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 6 00:24:17.723 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 6 00:25:17.797 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 6 02:33:04.239 ipv4_arp/pkt 0/RP0/CPU0 t1 PROBE: Timer expired on MgmtEth1
Nov 6 02:33:30.807 ipv4_arp/pkt 0/RP0/CPU0 t1 PROBE: MgmtEth0/RP0/CPU0/0 exceE
Nov 6 12:23:26.295 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 6 13:16:12.876 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 6 13:16:13.026 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 6 13:17:37.082 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 6 13:17:37.130 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 6 14:54:55.415 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
Nov 6 16:12:07.269 ipv4_arp/pkt 0/RP0/CPU0 t1 PROBE: Timer expired on MgmtEth1
Nov 6 16:12:35.727 ipv4_arp/pkt 0/RP0/CPU0 t1 PROBE: MgmtEth0/RP0/CPU0/0 exceE
Nov 6 17:03:53.443 ipv4_arp/pkt 0/RP0/CPU0 t1 PROBE: Timer expired on MgmtEth1
Nov 6 17:04:23.052 ipv4_arp/pkt 0/RP0/CPU0 t1 PROBE: MgmtEth0/RP0/CPU0/0 exceE
Nov 6 17:23:16.303 ipv4_arp/slow 0/RP0/CPU0 t1 ARP-EVENT: updated aib entry (0
    
```

Related Commands

Command	Description
show arp	Displays the ARP.

# show captured packets

To display information on packets that are switched and punted in the software, use the **show captured packets** command in EXEC mode.

**show captured packets** {**ingress**| **egress**} [**interface** *type interface-path-id*] [**hexdump**] [**last number**] [**single-line**] **location** *node-id*

## Syntax Description

<b>ingress</b>	Specifies ingress dropped packets.
<b>egress</b>	Specifies egress dropped packets.
<b>interface</b>	(Optional) Specifies an interface.
<i>type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>interface-path-id</i>	Physical interface or virtual interface. <b>Note</b> Use the <b>show interfaces</b> command to see a list of all interfaces currently configured on the router. For more information about the syntax for the router, use the question mark ( ? ) online help function.
<b>hexdump</b>	(Optional) Displays the packet contents in hex.
<b>last number</b>	(Optional) Specifies the last number of packets in the queue to display.
<b>single-line</b>	(Optional) Displays a one-line summary of the captured packets to facilitate the use of the include and exclude operators.
<b>location</b> <i>node-id</i>	Displays packet information for a specified node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Default

No default behavior or values

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.2	This command was introduced.

**Usage Guidelines**

Use the **show captured packets** command to display information on packets that are switched and punted in the software.

The **capture software packets** command must be enabled at the interface level to use this command.

**Task ID**

Task ID	Operations
cisco-support	read

**Examples**

The following example shows the output of the **show captured packets** command:

```
RP/0/0/CPU0:router# show captured packets ingress interface tengige0/0/0/3 location
0/0/CPU0

-----
packets captured on interface in ingress direction buffer overflow pkt drops:0, current:
6, non wrapping: 0 maximum: 200
-----
Wrapping entries
-----
[1] Mar 22 16:30:43.797, len: 114, hits: 1, i/p i/f: TenGigE0/0/0/3
[punt reason: IFIB]
[ether dst: 0015.fa99.590b src: 0010.a4e6.22fc type/len: 0x800]
[IPV4: source 172.18.2.2, dest 172.18.2.1 ihl 5, ver 4, tos 0
 id 22556, len 100, prot 1, ttl 64, sum c655, offset 0]
00008612 51010000 abcdabcd abcdabcd abcdabcd abcdabcd abcdabcd abcdabcd
abcdabcd abcdabcd abcdabcd abcd
```

This table describes the significant fields shown in the display.

**Table 9: show captured packets Field Descriptions**

Field	Description
punt reason: IFIB	Packet was switched in the software due to the Internal Forwarding Information Base (IFIB) entry.
ether	Source, destination, and type or length values in the Ethernet header.
IPV4	Depending on the type of packet, the layer 3 packet header follows.

# show cfgmgr trace

To display trace information for the configuration manager (CFGMGR), use the **show cfgmgr trace** command in EXEC mode.

**show cfgmgr trace**

**Syntax Description** This command has no keywords or arguments.

**Command Default** No default behavior or values

**Command Modes** EXEC

Release	Modification
Release 3.2	This command was introduced.

**Usage Guidelines** Use the **show cfgmgr trace** command to display cfgmgr trace information. The following lines of the **show cfgmgr trace** command output indicate that the startup configuration has started and that it has completed on the active RP:

```
Feb 6 21:28:37.145 /ltrace/cfgmgr/common 0/RP0/CPU0 t5 Startup confi
g apply requested with option '0x1'
Feb 6 21:31:30.874 /ltrace/cfgmgr/common 0/RP0/CPU0 t7 Startup confi
g done (and infra band already ready)
```



**Note** These traces are not present if the original active RP has ever reloaded (for example, if there have been any RP switchover events since the system first booted).

Task ID	Task ID	Operations
	cisco-support	read

**Examples** The following example shows the output of the **show cfgmgr trace** command:

```
RP/0/0/CPU0:router#show cfgmgr trace

130 wrapping entries (2048 possible, 0 filtered, 130 total)
Apr 23 21:15:58.587 cfgmgr/common 0/RP0/CPU0 t5 Req '4': Save interface config]
```

show cfgmgr trace

```

Apr 23 21:15:58.707 cfgmgr/common 0/RP0/CPU0 t5 Req '4': Save node specific col
Apr 23 21:15:59.000 cfgmgr/common 0/RP0/CPU0 t5 OIR announcement made for 'nod'
Apr 23 21:17:40.975 cfgmgr/common 0/RP0/CPU0 t5 The request queue IS NOT curred
Apr 23 21:17:40.975 cfgmgr/common 0/RP0/CPU0 t5 Process OIR save request.
Apr 23 21:17:41.040 cfgmgr/common 0/RP0/CPU0 t5 Validating 'LR' configuration ]
Apr 23 21:17:41.055 cfgmgr/common 0/RP0/CPU0 t5 Validating 'admin' configurati]
Apr 23 21:17:41.304 cfgmgr/common 0/RP0/CPU0 t5 Req '5': Save interface config]
Apr 23 21:17:41.349 cfgmgr/common 0/RP0/CPU0 t5 Req '5': Save interface config]
Apr 23 21:17:41.995 cfgmgr/common 0/RP0/CPU0 t5 Req '5': Save interface config]
Apr 23 21:17:42.041 cfgmgr/common 0/RP0/CPU0 t5 Req '5': Save interface config]
Apr 23 21:17:42.254 cfgmgr/common 0/RP0/CPU0 t5 Req '5': Save interface config]
Apr 23 21:17:42.356 cfgmgr/common 0/RP0/CPU0 t5 Req '5': Save node specific col
Apr 23 21:17:42.580 cfgmgr/common 0/RP0/CPU0 t5 OIR announcement made for 'nod'
Apr 25 15:26:49.372 cfgmgr/common 0/RP0/CPU0 t1 Config media returned from dis.
Apr 25 18:15:06.142 cfgmgr/common 0/RP0/CPU0 t1 Config media returned from dis.
Apr 26 03:35:10.170 cfgmgr/common 0/RP0/CPU0 t1 Config media returned from dis.
Apr 26 05:54:37.528 cfgmgr/common 0/RP0/CPU0 t1 Config media returned from dis.
Apr 26 06:18:47.118 cfgmgr/common 0/RP0/CPU0 t1 Config media returned from dis.
Apr 26 09:07:01.662 cfgmgr/common 0/RP0/CPU0 t1 Config media returned from dis.
Apr 26 09:28:22.311 cfgmgr/common 0/RP0/CPU0 t1 Config media returned from dis.
Apr 26 11:56:55.677 cfgmgr/common 0/RP0/CPU0 t1 Config media returned from dis.

```

Related Commands

Command	Description
show cfgmgr commitdb	Displays the contents of the commit database for the configuration manager.

# show im database

To display the information stored in the shared memory database of interface manager (IM), use the **show im database** command in EXEC mode.

**show im database** [**brief** | **detail** | **ifhandle** | **interface** | **summary** | **verbose** | **view**] *interface-type*  
*interface-instance* **location** *node-id*

## Syntax Description

<b>brief</b>	(Optional) Displays brief information about IM database.
<b>detail</b>	(Optional) Displays detailed information about IM database.
<b>ifhandle</b>	(Optional) Select a specific interface by handle.
<b>interface</b>	(Optional) Select a specific interface by name.
<b>summary</b>	(Optional) Displays IM database summary information.
<b>verbose</b>	(Optional) Displays verbose information about IM database.
<b>view</b>	(Optional) Specify a database view to filter the information based on the view
<i>interface-type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>interface-instance</i>	<p>Either a physical interface instance or a virtual interface instance as follows:</p> <ul style="list-style-type: none"> <li>Physical interface instance. Naming notation is <i>rack/slot/module/port</i> and a slash between values is required as part of the notation. <ul style="list-style-type: none"> <li><i>rack</i>: Chassis number of the rack.</li> <li><i>slot</i>: Physical slot number of the modular services card or line card.</li> <li><i>module</i>: Module number. A physical layer interface module (PLIM) is always 0.</li> <li><i>port</i>: Physical port number of the interface.</li> </ul> <p><b>Note</b> In references to a Management Ethernet interface located on a route processor card, the physical slot number is alphanumeric (RP0 or RP1) and the module is CPU0. Example: interface MgmtEth0/RP1/CPU0/0.</p> </li> <li>Virtual interface instance. Number range varies depending on interface type.</li> </ul> <p>For more information about the syntax for the router, use the question mark (?) online help function.</p>
<b>location</b> <i>node-id</i>	Displays IM database information for a specified node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

**Command Default** No default behavior or values

**Command Modes** EXEC

Release	Modification
Release 3.8.0	This command was introduced.

**Usage Guidelines**

Task ID	Operations
cisco-support	read
interface	read

**Examples**

The following example shows the output of the **show im database** command:

```
RP/0/0/CPU0:router# show im database verbose interface null 0
Mon Nov  9 22:10:37.964 PST

View: OWN - Owner, L3P - Local 3rd Party, G3P - Global 3rd Party,
      LDP - Local Data Plane, GDP - Global Data Plane, RED - Redundancy

Node 0/RP0/CPU0 (0x201)

Interface Null0, ifh 0x00080030 (up, 1500)
Interface flags:      0x00010097 (IFINDEX|VIRTUAL|CONFIG|VIS|DATA|CONTRO
Encapsulation:      null
Interface type:      IFT_NULL
Views:               GDP|LDP|G3P|L3P|OWN
Control location:    0/RP0/CPU0
Owner Private:       92 bytes
  Flags:              <none>
  State Transitions: 1
  Dampening Config:  NO
  Shared Locks:      0
  MTU default:       1500
  MTU ovh for bc/subif: 0/0
  MTU min/max:       0/0
  MTU avail/child:   0/1500
  MTU actual/notified: 1500/1500
  State (constraint): UP (UP)
  Callback:          OWN GROUP OWNER - ID 17[-]
  Ctrl Flags:        CFG_RDY|RDY|DNLD|INTF
Instance ID:         31
Checkpoint:          48 bytes
Resource in NetIO:   TRUE

Protocol             Caps (state, mtu)
-----
None                 null (up, 1500)
  Views:              LDP|G3P|L3P|OWN
```

```

Owner Private:          92 bytes
Flags:                  <none>
MTU min/max:           0/0
MTU avail/child:       1500/1500
MTU actual/notified:   1500/1500
State (constraint):    UP (UP)
Callback:              OWN GROUP OWNER - ID 17[-]
Ctrl Flags:           CFG_RDY|RDY|DNLD
Instance ID:          31
Checkpoint:           20 bytes
Resource in NetIO:    TRUE
Demux limit:         0x00000000
    
```

This table describes the significant fields shown in the display.

**Table 10: show im database Field Descriptions**

Field	Description
nodeid	Identifier associated with the node.
Interface	Interface name.
Protocol	Protocol capsulations associated with the interface.
Caps (state, mtu)	Capsulation names with associated state and MTU values.

The following example shows the output of the **show im database** command:

```

RP/0/0/CPU0:router# show im database brief location 0/0/CPU0

View: OWN - Owner, L3P - Local 3rd Party, G3P - Global 3rd Party,
      LDP - Local Data Plane, GDP - Global Data Plane, RED - Redundancy
    
```

Node 0/0/CPU0 (0x1)

Handle	Name	State	MTU	#P	#C	Views
0x01080020	FI0/0/CPU0	up	8000	11	12	GDP LDP L3P OWN
0x01080060	Gi0/0/0/0	up	9212	3	3	GDP LDP L3P OWN
0x01080080	Gi0/0/0/1	up	1514	3	3	GDP LDP L3P OWN
0x010800a0	Gi0/0/0/2	up	1514	3	3	GDP LDP L3P OWN
0x010800c0	Gi0/0/0/3	down	1514	4	4	GDP LDP L3P OWN
0x010800e0	Gi0/0/0/4	up	1514	3	3	GDP LDP L3P OWN
0x01080100	Gi0/0/0/5	up	1514	3	3	GDP LDP L3P OWN
0x01080120	Gi0/0/0/6	up	1514	8	17	GDP LDP L3P OWN
0x01080140	Gi0/0/0/7	down	1514	6	9	GDP LDP L3P OWN
0x010801c0	Gi0/0/0/6.1	up	1518	4	5	GDP LDP L3P OWN
0x010801e0	Gi0/0/0/6.101	up	1518	5	13	GDP LDP L3P OWN
0x01080200	Gi0/0/0/6.102	up	1518	5	13	GDP LDP L3P OWN
0x01080220	Gi0/0/0/6.103	up	1518	5	13	GDP LDP L3P OWN
0x01080240	Gi0/0/0/6.104	up	1518	5	13	GDP LDP L3P OWN
0x01080260	Gi0/0/0/6.105	up	1518	4	12	GDP LDP L3P OWN
0x01080280	Gi0/0/0/6.106	up	1518	4	12	GDP LDP L3P OWN
0x010802a0	Gi0/0/0/6.107	up	1518	4	12	GDP LDP L3P OWN
0x010802c0	Gi0/0/0/6.108	up	1518	4	10	GDP LDP L3P OWN
0x010802e0	Gi0/0/0/6.109	up	1518	4	10	GDP LDP L3P OWN
0x01080300	Gi0/0/0/6.110	up	1518	4	10	GDP LDP L3P OWN
0x01080320	Gi0/0/0/6.111	up	1518	4	10	GDP LDP L3P OWN
0x01080340	Gi0/0/0/6.112	up	1518	4	10	GDP LDP L3P OWN
0x01080360	Gi0/0/0/6.113	up	1518	4	10	GDP LDP L3P OWN
0x01080380	Gi0/0/0/6.114	up	1518	4	10	GDP LDP L3P OWN
0x010803a0	Gi0/0/0/6.115	up	1518	4	10	GDP LDP L3P OWN

show im database

```

0x010803c0 Gi0/0/0/6.116 up 1518 4 10 GDP|LDP|L3P|OWN
0x010803e0 Gi0/0/0/6.117 up 1518 4 10 GDP|LDP|L3P|OWN
0x01080400 Gi0/0/0/6.118 up 1518 4 10 GDP|LDP|L3P|OWN
0x01080420 Gi0/0/0/6.119 up 1518 4 10 GDP|LDP|L3P|OWN
0x01080440 Gi0/0/0/6.120 up 1518 4 10 GDP|LDP|L3P|OWN
0x01080460 Gi0/0/0/6.121 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080480 Gi0/0/0/6.122 up 1518 4 6 GDP|LDP|L3P|OWN
0x010804a0 Gi0/0/0/6.123 up 1518 4 6 GDP|LDP|L3P|OWN
0x010804c0 Gi0/0/0/6.124 up 1518 4 6 GDP|LDP|L3P|OWN
0x010804e0 Gi0/0/0/6.125 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080500 Gi0/0/0/6.126 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080520 Gi0/0/0/6.127 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080540 Gi0/0/0/6.128 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080560 Gi0/0/0/6.129 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080580 Gi0/0/0/6.130 up 1518 4 6 GDP|LDP|L3P|OWN
0x010805a0 Gi0/0/0/6.131 up 1518 4 6 GDP|LDP|L3P|OWN
0x010805c0 Gi0/0/0/6.132 up 1518 4 6 GDP|LDP|L3P|OWN
0x010805e0 Gi0/0/0/6.133 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080600 Gi0/0/0/6.134 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080620 Gi0/0/0/6.135 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080640 Gi0/0/0/6.136 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080660 Gi0/0/0/6.137 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080680 Gi0/0/0/6.138 up 1518 4 6 GDP|LDP|L3P|OWN
0x010806a0 Gi0/0/0/6.139 up 1518 4 6 GDP|LDP|L3P|OWN
0x010806c0 Gi0/0/0/6.140 up 1518 4 6 GDP|LDP|L3P|OWN
0x010806e0 Gi0/0/0/6.141 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080700 Gi0/0/0/6.142 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080720 Gi0/0/0/6.143 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080740 Gi0/0/0/6.144 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080760 Gi0/0/0/6.145 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080780 Gi0/0/0/6.146 up 1518 4 6 GDP|LDP|L3P|OWN
0x010807a0 Gi0/0/0/6.147 up 1518 4 6 GDP|LDP|L3P|OWN
0x010807c0 Gi0/0/0/6.148 up 1518 4 6 GDP|LDP|L3P|OWN
0x010807e0 Gi0/0/0/6.149 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080800 Gi0/0/0/6.150 up 1518 4 6 GDP|LDP|L3P|OWN
0x01080820 Gi0/0/0/7.1 down 1518 2 5 GDP|LDP|L3P|OWN
0x01080840 Gi0/0/0/7.2 down 1518 4 6 GDP|LDP|L3P|OWN
0x01080860 Gi0/0/0/7.3 down 1518 3 4 GDP|LDP|L3P|OWN
0x01080880 Gi0/0/0/7.4 down 1518 3 4 GDP|LDP|L3P|OWN
0x010808a0 Gi0/0/0/7.5 down 1518 3 4 GDP|LDP|L3P|OWN
0x010808c0 Gi0/0/0/7.6 down 1518 3 4 GDP|LDP|L3P|OWN
0x010808e0 Gi0/0/0/7.7 down 1518 3 4 GDP|LDP|L3P|OWN
0x01080900 Gi0/0/0/7.8 down 1518 3 4 GDP|LDP|L3P|OWN
0x01080920 Gi0/0/0/7.9 down 1518 3 4 GDP|LDP|L3P|OWN
0x01080940 Gi0/0/0/7.10 down 1518 3 4 GDP|LDP|L3P|OWN
0x01080960 Gi0/0/0/7.11 down 1518 3 4 GDP|LDP|L3P|OWN
0x01100020 Mg0/1/CPU1/0 N/A - 0 0 GDP
0x01100040 FI0/1/CPU1 N/A - 0 0 GDP
0x01180020 FI0/1/CPU0 N/A - 0 0 GDP
0x01180040 Mg0/1/CPU0/0 N/A - 0 0 GDP
0x01180030 Nu0 N/A - 0 0 GDP
0x01180050 En0 N/A - 2 2 GDP|LDP
0x01180070 En6tunnel0 N/A - 2 2 GDP|LDP
0x01180090 Lo0 N/A - 0 0 GDP
0x011800b0 Lo1 N/A - 0 0 GDP
0x011800d0 Lo2 N/A - 0 0 GDP
0x011800f0 Lo3 N/A - 0 0 GDP
0x01180110 Lo5 N/A - 0 0 GDP
0x01180130 Lo6 N/A - 0 0 GDP
0x01180150 Lo7 N/A - 0 0 GDP
0x01180170 BE102 N/A - 0 0 GDP
0x01180190 BE1080 N/A - 3 4 GDP|LDP
0x011801b0 BE1083 N/A - 3 4 GDP|LDP
0x011801d0 BE1084 N/A - 3 4 GDP|LDP
0x011801f0 BE1085 N/A - 5 12 GDP|LDP
0x01180210 BE1085.1 N/A - 4 6 GDP|LDP
0x01180230 BE1085.102 N/A - 4 7 GDP|LDP

```

# show imds interface brief

To display interface information for the interface manager distribution server (IMDS), use the **show imds interface brief** command in EXEC mode.

**show imds interface brief**

**Syntax Description** This command has no keywords or arguments.

**Command Default** No default behavior or values

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced.

**Usage Guidelines** Use the **show imds interface brief** command to display IMDS interface information. Use the command output to determine if the state, encapsulation being used, maximum transmission unit (MTU), and interface handle (ifhandle) for each interface are as expected.

Task ID	Task ID	Operations
	cisco-support	read

**Examples** The following example shows the output of the **show imds interface brief** command:

```
RP/0/0/CPU0:router show imds interface brief
IMDS BRIEF INTERFACE DATA (Node 0x201)
  handle          name          flags      state      mtu      encap
-----
0x00080000 FINT0/RP0/CPU0 0x0007 up        8000     91 (fint_base)
0x00080010 Null0          0x100ab up        1500     17 (null)
0x00080020 MgmtEth0/RP0/CPU0/0 0x1002f up        1514     30 (ether)
0x00080030 Loopback0     0x100ab up        1514     16 (loopback)
0x00080050 Bundle-POS24  0x104ab up        4474     14 (hdlc)
0x00080070 Bundle-Ether28 0x104ab up        1514     30 (ether)
0x00080090 Bundle-Ether28.1 0x10cab up        1500     107 (dot1q)
0x000800b0 Bundle-Ether28.2 0x10cab up        1500     107 (dot1q)
0x000800d0 Bundle-Ether28.3 0x10cab up        1500     107 (dot1q)
0x01180000 FINT0/1/CPU0  0x0007 up        8000     91 (fint_base)
0x01180020 GigabitEthernet0/1/5/0 0x1002f up        1514     30 (ether)
0x01180040 GigabitEthernet0/1/5/1 0x1002f up        1514     30 (ether)
0x01180060 GigabitEthernet0/1/5/2 0x1002f up        1514     30 (ether)
```

```

0x01180080 GigabitEthernet0/1/5/3 0x1002f admin-down 1514 30 (ether)
0x011800a0 GigabitEthernet0/1/5/4 0x1002f down 1514 30 (ether)
0x011800c0 GigabitEthernet0/1/5/5 0x1002f admin-down 1514 30 (ether)
.
.
0x01680480 SONET0/6/4/5 0x1006d up 10000 0 (Unknown)
0x016804a0 SonetPath0/6/4/5 0x10005 up 10000 0 (Unknown)
0x016804c0 POS0/6/4/5 0x1002f up 4474 14 (hdlc)
0x016804e0 SONET0/6/4/6 0x1006d up 10000 0 (Unknown)
0x01680500 SonetPath0/6/4/6 0x10005 up 10000 0 (Unknown)
0x01680520 POS0/6/4/6 0x1002f up 4474 14 (hdlc)
0x01680540 SONET0/6/4/7 0x1006d up 10000 0 (Unknown)
0x01680560 SonetPath0/6/4/7 0x10005 down 10000 0 (Unknown)
0x01680580 POS0/6/4/7 0x1002f admin-down 4474 14 (hdlc)

```

This table describes the significant fields shown in the display.

**Table 11: show imds interface brief Field Descriptions**

Field	Description
name	Interface name.
state	Interface state.
mtu	MTU associated with the interface.
encap	Base encapsulation associated with the interface.

# show netio chains

To display Network Input and Output (Netio) chains information for an interface, use the **show netio chains** command in EXEC mode.

**show netio chains** *interface-type interface-instance* [**location node-id**]

## Syntax Description

<i>interface-type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>interface-instance</i>	<p>Either a physical interface instance or a virtual interface instance as follows:</p> <ul style="list-style-type: none"> <li>Physical interface instance. Naming notation is <i>rack/slot/module/port</i> and a slash between values is required as part of the notation. <ul style="list-style-type: none"> <li><i>rack</i>: Chassis number of the rack.</li> <li><i>slot</i>: Physical slot number of the modular services card or line card.</li> <li><i>module</i>: Module number. A physical layer interface module (PLIM) is always 0.</li> <li><i>port</i>: Physical port number of the interface.</li> </ul> </li> </ul> <p><b>Note</b> In references to a Management Ethernet interface located on a route processor card, the physical slot number is alphanumeric (RP0 or RP1) and the module is CPU0. Example: interface MgmtEth0/RP1/CPU0/0.</p> <ul style="list-style-type: none"> <li>Virtual interface instance. Number range varies depending on interface type.</li> </ul> <p>For more information about the syntax for the router, use the question mark (?) online help function.</p>
<b>location node-id</b>	(Optional) Displays Netio chains information for a specified node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Default

No default behavior or values.

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.8.0	This command was introduced.
Release 3.9.0	No modifications.
Release 4.0.0	No modifications.

Usage Guidelines

Task ID

Task ID	Operation
cisco-support	read

Examples

The following example shows the output of the **show netio chains** command:

```
RP/0/0/CPU0:router# show netio chains gigabitEthernet 0/4/0/1
GigabitEthernet0/4/0/1 (handle: 0x05000500, nodeid 0x40) netio chains:
-----
Base decap chain:
  ether_shim      <130> <0x79d99950, 0x0807bc84> < 0, 0>
  ether           <30> <0x79d7eb14, 0x08079318> < 0, 0>

Protocol chains:
-----
<Protocol number> (name) Stats
Type Chain_node <caps num> <function, context> <drop pkts, drop bytes>
<7> (arp) Stats IN: 279 pkts, 16740 bytes; OUT: 279 pkts, 11718 bytes
  Encap:
    ether_shim <130> <0x79d99858, 0x081c649c> < 0, 0>
    l2_adj_rewrite <86> <0x7952437c, 0x081c5e4c> < 0, 0>
    txm_nopull <60> <0x79516cd0, 0x0817cbd8> < 0, 0>
  Decap:
    arp <24> <0x79a9ba14, 0x00000000> < 0, 0>
  Fixup:
    l2_adj_rewrite <86> <0x795236c0, 0x081c5eb8> < 0, 0>
    txm_nopull <60> <0x79516cd0, 0x0817cbd8> < 0, 0>
<12> (ipv4) Stats IN: 0 pkts, 0 bytes; OUT: 48 pkts, 9578 bytes
  Encap:
    ipv4 <26> <0x79aa2004, 0x0816c204> < 0, 0>
    ether <30> <0x79d7f634, 0x08079318> < 0, 0>
    ether_shim <130> <0x79d99858, 0x081c0ebc> < 0, 0>
    l2_adj_rewrite <86> <0x7952437c, 0x081c280c> < 0, 0>
    txm_nopull <60> <0x79516cd0, 0x0817cbd8> < 0, 0>
  Decap:
    ipv4 <26> <0x79aa2054, 0x00000000> < 0, 0>
  Fixup:
    l2_adj_rewrite <86> <0x795236c0, 0x081c2878> < 0, 0>
    txm_nopull <60> <0x79516cd0, 0x0817cbd8> < 0, 0>
<13> (mpls) Stats IN: 0 pkts, 0 bytes; OUT: 0 pkts, 0 bytes
  Encap:
    mpls <25> <0x79bd5f7c, 0x00000000> < 0, 0>
    ether <30> <0x79d7f634, 0x08079318> < 0, 0>
    ether_shim <130> <0x79d99858, 0x081cf838> < 0, 0>
    l2_adj_rewrite <86> <0x7952437c, 0x081cf52c> < 0, 0>
    txm_nopull <60> <0x79516cd0, 0x0817cbd8> < 0, 0>
  Decap:
    mpls <25> <0x79bd3130, 0x00000000> < 0, 0>
  Fixup:
    l2_adj_rewrite <86> <0x795236c0, 0x081cf598> < 0, 0>
    txm_nopull <60> <0x79516cd0, 0x0817cbd8> < 0, 0>
<22> (ether_sock) Stats IN: 0 pkts, 0 bytes; OUT: 0 pkts, 0 bytes
  Encap:
    ether_sock <98> <0x79d80aac, 0x08079318> < 0, 0>
    ether_shim <130> <0x79d99858, 0x0807bcfc> < 0, 0>
    l2_adj_rewrite <86> <0x7952437c, 0x0807b9a4> < 0, 0>
    txm_nopull <60> <0x79516cd0, 0x0817cbd8> < 0, 0>
  Decap:
```

```

ether_sock          <98> <0x79d80ca8, 0x08079318> <      0,      0>
Fixup:
l2_adj_rewrite     <86> <0x795236c0, 0x0807ba10> <      0,      0>
txm_nopull         <60> <0x79516cd0, 0x0817cbd8> <      0,      0>
    
```

Protocol SAFI counts:

```

-----

```

Protocol	SAFI	Pkts In	Bytes In	Pkts Out	Bytes Out
ipv4	Unicast	24330016	233944	8412	41
ipv4	Multicast	3240	60	0	0
ipv4	Broadcast	0	0	0	0
ipv6	Unicast	0	0	0	0
ipv6	Multicast	0	0	0	0

Node drop accounting:

```

-----
No drops
    
```

### Related Commands

Command	Description
<b>show netio clients</b>	Displays Netio clients information.
<b>show netio db</b>	Displays Netio database information.
<b>show netio idb</b>	Displays Netio IDB information.
<b>show netio media registrations</b>	Displays protocol registrations for media changes.
<b>show netio subblock</b>	Displays Netio subblock information.
<b>show netio trace</b>	Displays Netio trace data.

# show netio clients

To display Network Input and Output (Netio) clients information, use the **show netio clients** command in EXEC mode.

**show netio clients** [*location node-id*]

<b>Syntax Description</b>	<b>location</b> <i>node-id</i>	(Optional) Displays Netio clients information for a specified node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
---------------------------	--------------------------------	---

**Command Default** No default behavior or values.

**Command Modes** EXEC

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 3.8.0	This command was introduced.
	Release 3.9.0	No modifications.
	Release 4.0.0	No modifications.

## Usage Guidelines

<b>Task ID</b>	<b>Task ID</b>	<b>Operation</b>
	cisco-support	read

## Examples

The following example shows the output of the **show netio clients** command:

```
RP/0/0/CPU0:router# show netio clients location 0/3/2

XIPC: OutputQ [0:0]/[6000] HighOutputQ [0:18]/[2000] PuntbackQ [0:0]/[6000]
XIPC drops/total: OutputQ: 0/0 HighOutputQ: 0/15682677 PuntbackQ: 0/0
Counters (error/total): Output (0/15682677) Puntback (0/0) Jump (0/0)

ClientID           Input          Punt           XIPC InputQ    XIPC PuntQ
                   Drop/Total     Drop/Total     Cur/High/Max   Cur/High/Max
-----
ipv6_icmp          0/0            0/0            0/0/1000       0/0/1000
icmp               0/0            0/0            0/0/1000       0/0/1000
clns               0/0            0/0            L 0/0/1000     0/0/0
                  H 0/0/1000
chdlc_socket      0/802651      0/0            0/2/1000       0/0/0
```

```

fr_socket          0/4454002      0/0      0/6/2000      0/0/0
pre_route          0/0      0/0      0/0/1024      0/0/1024
ipv6_io            0/0      0/0      0/0/1000      0/0/1000
ipv6_nd            0/0      0/0      0/0/1000      0/0/1000
l2snoop            0/0      0/0      0/0/1000      0/0/0
icmpv6_unreach_jump 0/0      0/0      0/0          0/0
arp                0/0      0/0      0/0/1000      0/0/1000
ppp                0/10432525 0/0      0/17/1000     0/0/0
mpls_io            0/0      0/0      0/0/1000      0/0/1000
ipv4                0/0      0/0      0/0/1000      0/0/1000
ipv6                0/0      0/0      0/0/1000      0/0/1000
    
```

Key:

L = queue for lower priority packets  
 H = queue for higher priority packets

**Related Commands**

Command	Description
<b>show netio chains</b>	Displays Netio chains information.
<b>show netio db</b>	Displays Netio database information.
<b>show netio idb</b>	Displays Netio IDB information.
<b>show netio media registrations</b>	Displays protocol registrations for media changes.
<b>show netio subblock</b>	Displays Netio subblock information.
<b>show netio trace</b>	Displays Netio trace data.

# show netio db

To display Network Input and Output (Netio) database information for an interface, use the **show netio db** command in EXEC mode.

**show netio db** {*caps* | *dll* *namedll-name*| *proto*} [*location node-id*]

## Syntax Description

<b>caps</b>	Displays the capsules in the Netio database.
<b>dll</b>	Displays the dlls loaded in the Netio database.
<b>namedll-name</b>	(Optional) Specifies a DLL name.
<b>proto</b>	Displays the protocol in the Netio database.
<b>location node-id</b>	(Optional) Displays Netio database information for a specified node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Default

No default behavior or values.

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.8.0	This command was introduced.
Release 3.9.0	No modifications.
Release 4.0.0	No modifications.

## Usage Guidelines

### Task ID

Task ID	Operation
cisco-support	read

## Examples

The following example shows the output of the **show netio db** command.

```
RP/0/0/CPU0:router# show netio db caps location 0/1/0
```

```
Capsulation (ID)                Load Count  DLL Name                Refcount
```

chdlc(13)	1 libchdlc_netio.dll	3
hdlc(14)	2 libchdlc_netio.dll	3
clns(15)	2 libclns_netio.dll	2
ipv4_acl_in(22)	1 libipv4_netio_acl_filter.dll	2
ipv4_acl_out(23)	1 libipv4_netio_acl_filter.dll	2
arp(24)	1 libipv4_netio.dll	6
mpls(25)	22 libmpls_netio.dll	3
ipv4(26)	18 libipv4_netio.dll	6
pim_enc(28)	2 libpim_encaps_netio.dll	1
pim_null(29)	5 libpim_null_netio.dll	1
ether(30)	2 libether_netio.dll	3
mpls_te(36)	32 libmpls_netio.dll	3
txm_nopull(60)	67 libsched_netio.dll	1
lpts(81)	2 liblpts_netio.dll	2
ipv6(82)	2 libipv6_netio.dll	5
l2_adj_rewrite(86)	67 libl2_adj_netio.dll	1
ipv6_preswitch(90)	1 libipv6_netio.dll	5
fint_base(91)	10 libfint_netio.dll	1
fint_n2n(92)	2 libfint_n2n.dll	2
ether_sock(98)	2 libether_netio.dll	3
ipv6_pfilter_in(102)	1 libipv6_netio_pfilter.dll	2
ipv6_pfilter_out(103)	1 libipv6_netio_pfilter.dll	2
netio_debug(110)	1 libnetio_debugnode.dll	1
ipv4_preroute(115)	2 libipv4_netio.dll	6
fint_l2transport(125)	2 libl2fib_netio.dll	2
ipv6_preroute(128)	2 libipv6_netio.dll	5
ether_shim(130)	4 libether_shim_netio.dll	1
pos_shim(132)	3 libpos_shim_netio.dll	1
fint_caps_tp(134)	2 libfint_netio_tp.dll	2

**Related Commands**

Command	Description
<b>show netio chains</b>	Displays Netio chains information.
<b>show netio clients</b>	Displays Netio clients information.
<b>show netio idb</b>	Displays Netio IDB information.
<b>show netio media registrations</b>	Displays protocol registrations for media changes.
<b>show netio subblock</b>	Displays Netio subblock information.
<b>show netio trace</b>	Displays Netio trace data.

# show netio idb

To display network input and output (Netio) interface descriptor block (IDB) information for an interface, use the **show netio idb** command in EXEC mode.

**show netio idb** {*interface-type interface-instance*} [**location** *node-id*]

## Syntax Description

<i>interface-type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>interface-instance</i>	<p>Either a physical interface instance or a virtual interface instance as follows:</p> <ul style="list-style-type: none"> <li>• Physical interface instance. Naming notation is <i>rack/slot/module/port</i> and a slash between values is required as part of the notation. <ul style="list-style-type: none"> <li>◦ <i>rack</i>: Chassis number of the rack.</li> <li>◦ <i>slot</i>: Physical slot number of the modular services card or line card.</li> <li>◦ <i>module</i>: Module number. A physical layer interface module (PLIM) is always 0.</li> <li>◦ <i>port</i>: Physical port number of the interface.</li> </ul> </li> </ul> <p><b>Note</b> In references to a Management Ethernet interface located on a route processor card, the physical slot number is alphanumeric (RP0 or RP1) and the module is CPU0. Example: interface MgmtEth0/RP1/CPU0/0.</p> <ul style="list-style-type: none"> <li>• Virtual interface instance. Number range varies depending on interface type.</li> </ul> <p>For more information about the syntax for the router, use the question mark (?) online help function.</p>
<b>location</b> <i>node-id</i>	(Optional) Displays Netio IDB information for a specified node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Default

No default behavior or values

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.2	This command was introduced.
Release 3.8.0	Changed the <i>interface-type interface-instance</i> arguments to required ones.

Release	Modification
Release 3.9.0	No modifications.
Release 4.0.0	No modifications.

**Usage Guidelines**

Use the **show netio idb** command to display control plane information for the software switching path. The output provides useful statistics for determining software forwarding issues.

**Task ID**

Task ID	Operations
cisco-support	read

**Examples**

The following example shows the output of the **show netio idb** command:

```
RP/0/0/CPU0:router# show netio idb tenGigE 0/1/1/0 location 0/1/cpu0

TenGigE0/1/1/0 (handle: 0x01180020, nodeid:0x11) netio idb:
-----
name:                               TenGigE0_1_1_0
interface handle:                    0x01180020
interface global index:              2
physical media type:                 30
dchain ptr:                          <0x482ae8e0>
echain ptr:                          <0x482d791c>
fchain ptr:                          <0x482d79b8>
driver cookie:                       <0x4824ad58>
driver func:                          <0x4824ad44>
number of subinterfaces:             4096
subblock array size:                 3
DSNCF:                               0x00000000
interface stats info:
  IN unknown proto pkts:             0
  IN unknown proto bytes:            0
  IN multicast pkts:                  0
  OUT multicast pkts:                  0
  IN broadcast pkts:                  0
  OUT broadcast pkts:                  0
  IN drop pkts:                       0
  OUT drop pkts:                       0
  IN errors pkts:                     0
  OUT errors pkts:                     0

Chains
-----
Base decap chain:
  ether                               <30> <0xfd7aef88, 0x48302824> < 0, 0>

Protocol chains:
-----
<Protocol number> (name) Stats
  Type Chain node <caps num> <function, context> <drop pkts, drop bytes>
<7> (arp) Stats IN: 0 pkts, 0 bytes; OUT: 0 pkts, 0 bytes

Encap:
  l2_adj_rewrite <86> <0xfcec7a88, 0x4834efec> < 0, 0>
  queue_fifo <56> <0xfcedda68, 0x482dbee4> < 0, 0>
  txm_nopull <60> <0xfcea2a5c, 0x482dc11c> < 0, 0>
```

```

Decap:
  queue_fifo      <56> <0xfcedda4c, 0x482dbee4> < 0, 0>
  arp             <24> <0xfd1082cc, 0x00000000> < 0, 0>
Fixup:
  l2_adj_rewrite <86> <0xfcec745c, 0x00000000> < 0, 0>
  queue_fifo     <56> <0xfcedda68, 0x482dbee4> < 0, 0>
  txm_nopull    <60> <0xfcea2a5c, 0x482dc11c> < 0, 0>
<12> (ipv4)  Stats IN: 0 pkts, 0 bytes; OUT: 0 pkts, 0 bytes
Encap:
  ipv4           <26> <0xfd10f41c, 0x482d7724> < 0, 0>
  ether          <30> <0xfd7aeb44, 0x48302824> < 0, 0>
  l2_adj_rewrite <86> <0xfcec7a88, 0x4834f104> < 0, 0>
  queue_fifo     <56> <0xfcedda68, 0x482dbee4> < 0, 0>
  txm_nopull    <60> <0xfcea2a5c, 0x482dc11c> < 0, 0>
Decap:
  queue_fifo     <56> <0xfcedda4c, 0x482dbee4> < 0, 0>
  ipv4           <26> <0xfd10f474, 0x00000000> < 0, 0>
Fixup:
  l2_adj_rewrite <86> <0xfcec745c, 0x00000000> < 0, 0>
  queue_fifo     <56> <0xfcedda68, 0x482dbee4> < 0, 0>
  txm_nopull    <60> <0xfcea2a5c, 0x482dc11c> < 0, 0>
<22> (ether_sock) Stats IN: 0 pkts, 0 bytes; OUT: 0 pkts, 0 bytes
Encap:
  ether_sock     <98> <0xfd7b1630, 0x48302824> < 0, 0>
  l2_adj_rewrite <86> <0xfcec7a88, 0x48304c1c> < 0, 0>
  queue_fifo     <56> <0xfcedda68, 0x482dbee4> < 0, 0>
  txm_nopull    <60> <0xfcea2a5c, 0x482dc11c> < 0, 0>
Decap:
  queue_fifo     <56> <0xfcedda4c, 0x482dbee4> < 0, 0>
  ether_sock     <98> <0xfd7b1874, 0x48302824> < 0, 0>
Fixup:
  l2_adj_rewrite <86> <0xfcec745c, 0x00000000> < 0, 0>
  queue_fifo     <56> <0xfcedda68, 0x482dbee4> < 0, 0>
  txm_nopull    <60> <0xfcea2a5c, 0x482dc11c> < 0, 0>

```

Protocol SAFI counts:

```

-----
      Protocol      SAFI      Pkts In  Bytes In  Pkts Out  Bytes Out
-----
      ipv4      Unicast      0         0         0         0
      ipv4      Multicast     0         0         0         0
      ipv4      Broadcast     0         0         0         0
      ipv6      Unicast      0         0         0         0
      ipv6      Multicast     0         0         0         0

```

This table describes the significant fields shown in the display.

**Table 12: show netio idb Field Descriptions**

Field	Description
name	Netio name associated with the interface.
interface handle	Value assigned to the interface by the netio for identification.
IN unknown proto pkts	Number of packets sent to netio that had an unknown protocol type.
IN unknown proto bytes	Number of bytes sent to netio that had an unknown protocol type.
IN multicast pkts	Number of ingress multicast packets for the interface.

Field	Description
OUT multicast pkts	Number of egress multicast packets for the interface.
IN broadcast pkts	Number of ingress broadcast packets for the interface.
OUT broadcast pkts	Number of egress broadcast packets for the interface.
IN drop pkts	Number of ingress dropped packets for the interface.
OUT drop pkts	Number of egress dropped packets for the interface.
IN errors pkts	Number of ingress errored packets for the interface.
OUT errors pkts	Number of egress errored packets for the interface.
Base decap chain	Lowest-level decap chain assigned to the interface.
Protocol chains	Layer 3 protocol chains assigned to the interface.
Type	Layer 3 protocol type.
drop pkts, drop bytes	Dropped packet and byte counters associated with the protocol.
Encap	Processing steps in the encap chain.
Decap	Processing steps in the decap chain.
Fixup	Processing steps in the fixup chain.
Protocol SAFI counts	Unicast or multicast counts associated with the protocol.
Protocol	Protocol type.
SAFI	Secondary address family identifier type.
Pkts In	Number of packets in for the address family.
Bytes In	Number of bytes in for the address family.
Pkts Out	Number of packets out for the address family.
Bytes Out	Number of bytes out for the address family.

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show netio chains</b>	Displays Netio chains information.
<b>show netio clients</b>	Displays Netio clients information.
<b>show netio db</b>	Displays Netio database information.
<b>show netio media registrations</b>	Displays protocol registrations for media changes.
<b>show netio subblock</b>	Displays Netio subblock information.
<b>show netio trace</b>	Displays Netio trace data.

# show netio media-registrations

To display Network Input and Output (Netio) protocol registrations for media changes, use the **show netio media-registrations** command in EXEC mode.

**show netio media-registrations**[location *node-id*]

<b>Syntax Description</b>	<b>location <i>node-id</i></b> (Optional) Displays Netio protocol registrations for media changes for a specified node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
---------------------------	---

<b>Command Default</b>	No default behavior or values.
------------------------	--------------------------------

<b>Command Modes</b>	EXEC
----------------------	------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 3.8.0	This command was introduced.
	Release 3.9.0	No modifications.
	Release 4.0.0	No modifications.

## Usage Guidelines

<b>Task ID</b>	<b>Task ID</b>	<b>Operation</b>
	cisco-support	read

## Examples

The following example shows the output of the **show netio media-registrations** command:

```
RP/0/0/CPU0:router# show netio media-registrations location 0/2/0
```

```
Registrations by L3 for media (change/upgrade) changes
L3 Protocol      Callback      L2 Media
-----
clns              0x795f978c   atm_mux_vc
                  atm_nlpid_vc
                  atm_snap_vc
                  atm_sub
                  dot1q
                  ether
                  fint_base
                  fr_sub_base
                  fr_vc_base
```

show netio media-registrations

```

hdlc
srp
ipv4      0x79af58e8  atm_mux_vc
           atm_nlpid_vc
           atm_snap_vc
           atm_sub
           dot1q
           ether
           fint_base
           fr_sub_base
           fr_vc_base
           hdlc
           srp
ipv6      0x796a45e8  atm_mux_vc
           atm_nlpid_vc
           atm_snap_vc
           atm_sub
           dot1q
           ether
           fint_base
           fr
           hdlc
           srp
mpls      0x79c66d14  atm_nlpid_vc
           atm_snap_vc
           atm_sub
           dot1q
           ether
           fint_base
           hdlc
           ppp
           srp
lpts      0x79563174  fint_base
ipv6_preroute 0x796a456c  fint_base
    
```

**Related Commands**

Command	Description
<b>show netio chains</b>	Displays Netio chains information.
<b>show netio clients</b>	Displays Netio clients information.
<b>show netio db</b>	Displays Netio database information.
<b>show netio idb</b>	Displays Netio IDB information.
<b>show netio subblock</b>	Displays Netio subblock information.
<b>show netio trace</b>	Displays Netio trace data.

# show netio subblock

To display Network Input and Output (Netio) subblock information, use the **show netio subblock** command in EXEC mode.

**show netio subblock** {**idb** {*interface-type**interface-instance*} | **registrations** } [**location** *node-id*]

## Syntax Description

<b>idb</b>	Displays subblock information for an interface.
<b>registrations</b>	Displays all the registered subblocks.
<i>interface-type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>interface-instance</i>	<p>Either a physical interface instance or a virtual interface instance as follows:</p> <ul style="list-style-type: none"> <li>• Physical interface instance. Naming notation is <i>rack/slot/module/port</i> and a slash between values is required as part of the notation. <ul style="list-style-type: none"> <li>◦ <i>rack</i>: Chassis number of the rack.</li> <li>◦ <i>slot</i>: Physical slot number of the modular services card or line card.</li> <li>◦ <i>module</i>: Module number. A physical layer interface module (PLIM) is always 0.</li> <li>◦ <i>port</i>: Physical port number of the interface.</li> </ul> </li> </ul> <p><b>Note</b> In references to a Management Ethernet interface located on a route processor card, the physical slot number is alphanumeric (RP0 or RP1) and the module is CPU0. Example: interface MgmtEth0/RP1/CPU0/0.</p> <ul style="list-style-type: none"> <li>• Virtual interface instance. Number range varies depending on interface type.</li> </ul> <p>For more information about the syntax for the router, use the question mark (?) online help function.</p>
<b>location</b> <i>node-id</i>	(Optional) Displays Netio subblock information for a specified node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Default

No default behavior or values.

**Command Modes**

EXEC

**Command History**

Release	Modification
Release 3.8.0	This command was introduced.
Release 3.9.0	No modifications.
Release 4.0.0	No modifications.

**Usage Guidelines**

**Task ID**

Task ID	Operation
cisco-support	read

**Examples**

The following example shows the output of the **show netio subblock** command:

RP/0/0/CPU0:router# **show netio subblock registrations location 0/2/2**

```

Feature Name      Subblock List  Destroy Func      Handle
<subblock addr> <intf handle> <intf name>      <refcnt>
-----
ipv6-switch      0x0811cbfc    0x796ae090        1
<0x0806a6b0> <0x03000100> <FINT0_2_CPU0    > < 3>
ether-caps       0x08198ba0    0x79f350b4        2
<0x0807aa44> <0x03000600> <FastEthernet0_2_2_0 > < 3>
<0x0807aa88> <0x03000700> <FastEthernet0_2_2_1 > < 3>
<0x0807aacc> <0x03000800> <FastEthernet0_2_2_2 > < 3>
<0x081c2758> <0x03000900> <FastEthernet0_2_2_3 > < 3>
<0x081c279c> <0x03000a00> <FastEthernet0_2_2_4 > < 3>
<0x081c27e0> <0x03000b00> <FastEthernet0_2_2_5 > < 3>
<0x081c2824> <0x03000c00> <FastEthernet0_2_2_6 > < 3>
<0x081c2868> <0x03000d00> <FastEthernet0_2_2_7 > < 4>
fr_control_vc_base_caps 0x081bdf6c    0x7a0209c8        3
<0x081c2978> <0x03001a00> <POS0_2_0_0.0_vc_0   > < 2>
<0x081c29bc> <0x03001b00> <POS0_2_0_1.0_vc_0   > < 2>
<0x081c2a00> <0x03001c00> <POS0_2_0_0.0_vc_1023 > < 2>
<0x081c2a44> <0x03001d00> <POS0_2_0_1.0_vc_1023 > < 2>
fr_vc_base_caps  0x08206424    0x7a020890        4
<0x081c2a88> <0x03001e00> <POS0_2_0_0.1        > < 2>
<0x081c2acc> <0x03001f00> <POS0_2_0_1.1        > < 2>

```

**Related Commands**

Command	Description
<b>show netio chains</b>	Displays Netio chains information.
<b>show netio clients</b>	Displays Netio clients information.
<b>show netio db</b>	Displays Netio database information.

<b>Command</b>	<b>Description</b>
<b>show netio idb</b>	Displays Netio IDB information.
<b>show netio media registrations</b>	Displays protocol registrations for media changes.
<b>show netio trace</b>	Displays Netio trace data.

## show netio trace

To display Network Input and Output (Netio) trace information, use the **show netio trace** command in EXEC mode.

**show netio trace** {**all**| **chains**| **control**| **dpc**| **error**| **interface**| **LC**| **packet**} [*file*| *hexdump*| *last*| *location*| *reverse*| *stats*| *tailf*| *unique*| *verbose*| *wrapping*]

### Syntax Description

<b>all</b>	Displays all Netio trace data
<b>chains</b>	Displays Netio chains trace data
<b>control</b>	Displays Netio control trace data
<b>dpc</b>	Displays Netio DPC trace data
<b>error</b>	Displays Netio error trace data
<b>interface</b>	Displays Netio interface trace data
<b>LC</b>	Displays Netio trace information for LC processes data
<b>packet</b>	Displays Netio packet drop error messages trace data
<i>file</i>	(Optional) A specific file name traces in hexadecimal
<i>hexdump</i>	(Optional) Display traces in hexadecimal
<i>last</i>	(Optional) Displays the last n entries
<i>location</i>	(Optional) Displays the card location
<i>reverse</i>	(Optional) Displays the latest traces first
<i>stats</i>	(Optional) Displays statistics
<i>tailf</i>	(Optional) Displays new traces as added
<i>unique</i>	(Optional) Displays unique entries with counts

<i>verbose</i>	(Optional) Displays internal debugging information
<i>wrapping</i>	(Optional) Displays wrapping entries

**Command Default** No default behavior or values.

**Command Modes** EXEC

Release	Modification
Release 3.8.0	This command was introduced.
Release 3.9.0	No modifications.
Release 4.0.0	No modifications.

**Usage Guidelines**

Task ID	Operation
cisco-support	read

**Examples** The following example shows the output of the **show netio trace** command:

```
RP/0/0/CPU0:router# show netio trace chains stats location 0/0/CPU0

/net/node0_0_CPU0/dev/shmem/ltrace/netio/chains--- wrapping: inf Mbytes/sec for 1024 entries
361 wrapping_entries (1024 possible, 0 filtered, 361 total)
Jan 11 15:04:14.695 netio/chains--- 0/0/CPU0 t1 Chains: update IDB chain, ifhandle
0x01000100, prot
o 0 (base), caps 91 (fint_base), op ADD, chain BD, data len 0
Jan 11 15:04:15.070 netio/chains--- 0/0/CPU0 t1 Chains: update IDB chain, ifhandle
0x01000100, prot
o 18 (lpts), caps 81 (lpts), op ADD, chain D, data len 4
Jan 11 15:04:16.265 netio/chains--- 0/0/CPU0 t1 Chains: update IDB chain, ifhandle
0x01000100, prot
o 18 (lpts), caps 86 (l2_adj_rewrite), op ADD, chain E, data len 0
Jan 11 15:04:16.274 netio/chains--- 0/0/CPU0 t1 Chains: update IDB chain, ifhandle
0x01000100, prot
o 18 (lpts), caps 60 (txm_nopull), op ADD, chain E, data len 0
Jan 11 15:04:16.542 netio/chains--- 0/0/CPU0 t1 Chains: update IDB chain, ifhandle
0x01000100, prot
o 18 (lpts), caps 86 (l2_adj_rewrite), op ADD, chain F, data len 0
Jan 11 15:04:16.542 netio/chains--- 0/0/CPU0 t1 Chains: update IDB chain, ifhandle
0x01000100, prot
o 18 (lpts), caps 60 (txm_nopull), op ADD, chain F, data len 0
Jan 11 15:04:16.542 netio/chains--- 0/0/CPU0 t1 Chains: update IDB chain, ifhandle
```

show netio trace

```

0x01000100, prot
o 18 (lpts), caps 91 (fint_base), op ADD, chain E, data len 0
Jan 11 15:04:16.542 netio/chains--- 0/0/CPU0 t1 Chains: update IDB chain, ifhandle
0x01000100, prot
o 18 (lpts), caps 81 (lpts), op ADD, chain E, data len 4
Jan 11 15:04:16.562 netio/chains--- 0/0/CPU0 t1 Chains: update IDB chain, ifhandle
0x01000100, prot
o 6 (fint_n2n), caps 92 (fint_n2n), op ADD, chain D, data len 0
Jan 11 15:04:16.646 netio/chains--- 0/0/CPU0 t1 Chains: update IDB chain, ifhandle
0x01000100, prot
o 6 (fint_n2n), caps 86 (l2_adj_rewrite), op ADD, chain E, data len 0
Jan 11 15:04:16.646 netio/chains--- 0/0/CPU0 t1 Chains: update IDB chain, ifhandle
0x01000100, prot
o 6 (fint_n2n), caps 60 (txm_nopull), op ADD, chain E, data len 0
Jan 11 15:04:16.646 netio/chains--- 0/0/CPU0 t1 Chains: update IDB chain, ifhandle
0x01000100, prot
o 6 (fint_n2n), caps 86 (l2_adj_rewrite), op ADD, chain F, data len 0
Jan 11 15:04:16.646 netio/chains--- 0/0/CPU0 t1 Chains: update IDB chain, ifhandle
0x01000100, prot
o 6 (fint_n2n), caps 60 (txm_nopull), op ADD, chain F, data len 0
Jan 11 15:04:16.646 netio/chains--- 0/0/CPU0 t1 Chains: update IDB chain, ifhandle
0x01000100, prot
o 6 (fint_n2n), caps 91 (fint_base), op ADD, chain E, data len 0
Jan 11 15:04:16.646 netio/chains--- 0/0/CPU0 t1 Chains: update IDB chain, ifhandle
0x01000100, prot
.
.
.

```

Related Commands

Command	Description
show netio chains	Displays Netio chains information.
show netio clients	Displays Netio clients information.
show netio db	Displays Netio database information.
show netio idb	Displays Netio IDB information.
show netio media registrations	Displays protocol registrations for media changes.
show netio subblock	Displays Netio subblock information.

# show sysdb connections

To display the client connection information for the system database (SYSDB), use the **show sysdb connections** command in EXEC mode.

**show sysdb connections** [**detail**| **job**| **path**| **location**| **shared-plane**]

Syntax Description	
<b>detail</b>	(Optional) Displays the detailed client connection information.
<b>job</b> <i>job-id</i>	(Optional) Specify a Job ID.
<b>path</b> <i>path-filter</i>	(Optional) Specify a path filter.
<b>location</b> <i>node-id</i>	(Optional) Specify a location. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>shared-plane</b>	(Optional) Displays the shared-plane data.

**Command Default** No default behavior or values

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.0	This command was introduced.

## Usage Guidelines

Task ID	Task ID	Operations
	sysmgr	read
	cisco-support	read

**Examples** The following example shows the output of the **show sysdb connections** command.

```
RP/0/0/CPU0:router# show sysdb connections detail location 0/1/CPU0
SysDB Connections:
  "/debug/node/11/LR/sysdb/client/"
```

## show sysdb connections

```
From:      shmwin_svr (jid 76, nid 0/1/CPU0, tid 1)
Connid:    00000001 Refcount: 0002 Options: 00000032
Connected: Y In trans: N Verf susp: N
Client connid: 00000000
Connected at: Jul 14 19:31:47.304
"/debug/node/11/LR/packet/"
From:      packet (jid 218, nid 0/1/CPU0, tid 1)
Connid:    00000002 Refcount: 0002 Options: 00000032
Connected: Y In trans: N Verf susp: N
Client connid: 00000000
Connected at: Jul 14 19:31:47.305
"/debug/node/11/LR/cdm/qsm/"
From:      qsm (jid 246, nid 0/1/CPU0, tid 4)
Connid:    00000003 Refcount: 0002 Options: 00000032
Connected: Y In trans: N Verf susp: N
Client connid: 00000000
Connected at: Jul 14 19:31:47.305
"/debug/node/11/LR/eem/"
From:      wdsysmon (jid 361, nid 0/1/CPU0, tid 5)
Connid:    00000005 Refcount: 0002 Options: 00000032
Connected: Y In trans: N Verf susp: N
Client connid: 00000000
Connected at: Jul 14 19:31:47.316
"/debug/node/11/LR/sysmgr/"
From:      sysmgr (jid 79, nid 0/1/CPU0, tid 7)
Connid:    00000013 Refcount: 0002 Options: 00000032
...
```

# show sysdb trace verification location

To display trace verification information for the system database (SYSDB), use the **show sysdb trace verification location** command in EXEC mode.

**show sysdb trace verification location** *node-id*

<b>Syntax Description</b>	<i>node-id</i>	Specific node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
---------------------------	----------------	--

**Command Default** No default behavior or values

**Command Modes** EXEC

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 3.2	This command was introduced.

**Usage Guidelines** Use the **show sysdb trace verification shared-plane location** command to display details of recent verification sysDB transactions and changes on local plane configurations. The command output allows you to confirm that configuration were verified and accepted.

<b>Task ID</b>	<b>Task ID</b>	<b>Operations</b>
	sysmgr	read
	cisco-support	read

**Examples** The following example shows the output of the **show sysdb trace verification shared-plane location** command. The output shows that changes to the SysDB local plane were verified and accepted.

```
RP/0/0/CPU0:router# show sysdb trace verification location 0/3/CPU0
Timestamp      jid      tid  reg handle  connid  action
                path
323 wrapping entries (4096 possible, 299 filtered, 622 total)
Jul  7 20:10:36.212      260      1    90      8782    apply reply
                '___'
Jul  7 20:10:35.476      260      1    90      4912    Apply/abort called
                'cfg/if/act/GigabitEthernet0_3_4_0.1/a/sub_vlan/0x2/_____/Gigab
itEthernet0_3_4_0/_____'
```

show sysdb trace verification location

```

Jul  7 20:10:35.475      260      1      90      4912      verify reply: accep
t
Jul  7 20:10:35.471      260      1      90      4912      Verify called
'cfg/if/act/GigabitEthernet0_3_4_0.1/a/sub_vlan/0x2/_____/Gigab
itEthernet0_3_4_0/
Jul  7 20:10:35.471      144      1      4      8782      apply reply
'---'
Jul  7 20:10:35.471      144      1      4      8782      apply reply
'---'
Jul  7 20:10:35.471      144      1      4      8782      apply reply
'---'
Jul  7 20:10:35.471      144      1      4      8782      apply reply
'---'
Jul  7 20:10:35.471      144      1      4      8782      apply reply
'---'
Jul  7 20:10:35.471      144      1      4      8782      apply reply
'---'
Jul  7 20:10:35.471      144      1      4      8782      apply reply
'---'
Jul  7 20:10:35.471      144      1      4      8782      apply reply
'---'
Jul  7 20:10:35.470      144      1      4      474      Apply/abort batch e
nded
Jul  7 20:10:35.470      144      1      4      474      Apply/abort called
'cfg/if/act/GigabitEthernet0_3_4_0/ord_x/im/shutdown'
Jul  7 20:10:35.470      144      1      4      474      Apply/abort called
'cfg/if/act/GigabitEthernet0_3_4_1/ord_x/im/shutdown'
Jul  7 20:10:35.470      144      1      4      474      Apply/abort called
'cfg/if/act/GigabitEthernet0_3_4_2/ord_x/im/shutdown'
Jul  7 20:10:35.470      144      1      4      474      Apply/abort called
'cfg/if/act/GigabitEthernet0_3_4_3/ord_x/im/shutdown'
Jul  7 20:10:35.470      144      1      4      474      Apply/abort called
'cfg/if/act/GigabitEthernet0_3_4_4/ord_x/im/shutdown'
Jul  7 20:10:35.469      144      1      4      474      Apply/abort called
'cfg/if/act/GigabitEthernet0_3_4_5/ord_x/im/shutdown'
Jul  7 20:10:35.469      144      1      4      474      Apply/abort called
'cfg/if/act/GigabitEthernet0_3_4_6/ord_x/im/shutdown'
Jul  7 20:10:35.469      144      1      4      474      Apply/abort called
'cfg/if/act/GigabitEthernet0_3_4_7/ord_x/im/shutdown'
Jul  7 20:10:35.469      144      1      4      474      Apply/abort batch s
tarted
Jul  7 20:10:35.469      144      1      4      474      verify reply: accep
t
Jul  7 20:10:35.469      144      1      4      474      verify reply: accep
t
Jul  7 20:10:35.469      144      1      4      474      verify reply: accep
t
!
!
!

```

This table describes the significant fields shown in the display.

**Table 13: show sysdb trace verification location Field Descriptions**

Field	Description
Timestamp	Time of the verification.
jid	Job identifier of the verification.
tid	Thread identifier.
reg handle	Registration handle.
connid	Connection identifier.

Field	Description
action	Action occurring between the sysDB server and client.
apply reply	SysDB notification that the client that an apply action has occurred.
Apply/abort called	SysDB notification for the client that an apply or abort has been called.
verify reply: accept	Verifier has accepted the verification request.

**Related Commands**

Command	Description
<b>show sysdb connection path shared-plane</b>	Displays system database client connection shared plane data for a specific path.

# show sysdb trace verification shared-plane

To display trace verification information for the system database (SYSDB), use the **show sysdb trace verification shared-plane** command in EXEC mode.

**show sysdb trace verification shared-plane** [**file**| **hexdump**| **last**| **location**| **reverse**| **stats**| **tailf**| **unique**| **verbose**| **wrapping**]

## Syntax Description

<b>file</b>	(Optional) Specifies the name of a file.
<b>hexdump</b>	(Optional) Displays the packet contents in hexadecimal format.
<b>last</b>	(Optional) Specifies the last number of packets in the queue to display.
<b>location</b>	(Optional) Displays the card location.
<b>reverse</b>	(Optional) Specifies the new traces as they are added.
<b>stats</b>	(Optional) Displays trace statistics information.
<b>tailf</b>	(Optional) Displays new traces as they are added.
<b>unique</b>	(Optional) Displays a list of unique entries with counts.
<b>verbose</b>	(Optional) Displays internal debugging information.
<b>wrapping</b>	(Optional) Displays wrapping entries of all trace information.

## Command Default

No default behavior or values

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.2	This command was introduced.
Release 3.8.0	All optional arguments were added with their descriptions.

## Usage Guidelines

Use the **show sysdb trace verification shared-plane** command to display details of recent verification sysDB transactions and changes on the shared plane. The command output allows you to confirm whether the configuration was verified correctly.

Specifying a path using the **include** keyword and *path* argument filters the data to display only the sysDB path for the router. Use the **describe** command to determine the path.

**Task ID**

Task ID	Operations
sysmgr	read
cisco-support	read

**Examples**

The following example shows the output of the **show sysdb trace verification shared-plane** command. The output shows that changes to the SysDB shared plane were verified and accepted.

```
RP/0/0/CPU0:router# show sysdb trace verification shared-plane | include gl/a/hostname
May 18 19:16:17.143      340      3      210      962      Apply/abort called
                    'cfg/gl/a/hostname'
May 18 19:16:17.132      340      3      210      962      Verify called
                    'cfg/gl/a/hostname'
May 18 19:16:17.126      340      3      210      962      Apply/abort called
                    'cfg/gl/a/hostname'
May 18 19:16:17.109      340      3      210      962      Verify called
                    'cfg/gl/a/hostname'
May 18 18:43:16.065      340      3      210      962      register
                    'cfg/gl/a/hostname'
May 18 18:41:41.048      340      3      16       362      register
                    'cfg/gl/a/hostname'
```

This table describes the significant fields shown in the display.

**Table 14: show sysdb trace verification shared-plane Field Descriptions**

Field	Description
Apply/abort called	SysDB server has either applied or aborted the action requiring verification.
Verify called	Client has issued a verify request to the sysDB server.
register	Client has registered with sysDB server for verification.

**Related Commands**

Command	Description
<b>show sysdb connection path shared-plane</b>	Displays sysDB client connection shared plane data for a specific path.

# show tbm hardware

To displays tree bitmap hardware-related information, use the **show tbm hardware** command in EXEC mode.

**show tbm hardware** {*ipv4*|*ipv6*|*mpls*|*vpn4*|*table-id*|*afi-all*|*sw-only*|*dual*|*egress*|*ingress*} {*unicast*|*multicast*|*safi-all*} {*dual*|*egress*|*ingress*|*sw-only*} {*brief*|*detail*|*lookup*|*prefix*|*prefix-hex-string*} *location node-id*

## Syntax Description

<b>ipv4</b>	Specifies IP Version 4 address prefixes.
<b>ipv6</b>	Specifies IP Version 6 address prefixes.
<b>mpls</b>	Specifies MPLS-related tree bitmap information.
<b>vpn4</b>	Specifies VPNv4-related tree bitmap information.
<b>table-id</b>	Specifies tree bitmap information for a specific table ID.
<b>afi-all</b>	Specifies IPv4 and IPv6 commands.
<b>sw-only</b>	Specifies software-only tree bitmap information.
<b>dual</b>	Specifies tree bitmap information for dual, ingress, and egress, modes.
<b>egress</b>	Specifies egress tree bitmap information.
<b>ingress</b>	Specifies ingress tree bitmap information.
<b>unicast</b>	Specifies unicast address prefixes.
<b>multicast</b>	Specifies multicast address prefixes. This option is supported for IPv4 address families.
<b>safi-all</b>	For subaddress family, specifies prefixes for all subaddress families. This option is supported for IPv4 address families.
<b>dual</b>	Specifies ingress and egress tree bitmap information.
<b>brief</b>	Displays brief information.
<b>detail</b>	Displays detailed information.
<b>lookup</b>	Displays key or address information to look up (longest match) in the table.
<b>prefix</b>	Displays prefix-related information.
<b>location</b> <i>node-id</i>	Displays tree bitmap hardware-related information for a specified node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

**Command Default** No default behavior or values

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced.

**Usage Guidelines** Use the **show tbm hardware** command to display hardware-related ingress and egress information for the tree bitmap.

Task ID	Task ID	Operations
	cisco-support	read

**Examples** The following example shows the output of the **show tbm hardware** command:

```
RP/0/0/CPU0:router# show tbm hardware ipv4 unicast dual detail location 0/6/cpu0

TBM Table Type: IPv4 Unicast
-----
TBM: number of pulses: 71
TBM: number of Err fix attempts: 0
      No current failures
Past failures: leaf(0), mem(0), mipc(0), flush_mipc(0)
               post_compact(0), pre_compact(0)

PLU Bucket Statistics:
-----
      Bucket 0: 44
      Bucket 1: 44
      Bucket 2: 327
      Bucket 3: 44
      Bucket 4: 44
      Bucket 5: 43
      Bucket 6: 43
      Bucket 7: 45

Ingress PLU Info
-----
      PLU: Num Writes : 3064
      PLU: Num Copies : 2197

PLU Memory Channel Statistics:
-----
      Number of compactions: 0
      FCRAM0 Chan:      110 (Pages: 5, 1% used)
      FCRAM1 Chan:      125 (Pages: 8, 0% used)
      FCRAM2 Chan:      127 (Pages: 8, 0% used)
      FCRAM3 Chan:      148 (Pages: 8, 0% used)
```

```

FCRAM4 Chan:      124 (Pages: 8, 0% used)

Egress PLU Info
-----
PLU: Num Writes : 3064
PLU: Num Copies : 2197

PLU Memory Channel Statistics:
-----
Number of compactions: 0
FCRAM0 Chan:      110 (Pages: 5, 1% used)
FCRAM1 Chan:      125 (Pages: 8, 0% used)
FCRAM2 Chan:      127 (Pages: 8, 0% used)
FCRAM3 Chan:      148 (Pages: 8, 0% used)
FCRAM4 Chan:      124 (Pages: 8, 0% used)

```

This table describes the significant fields shown in the display.

**Table 15: show tbn hardware Field Descriptions**

Field	Description
Past failures	Number of times there was a failure in programming hardware.
PLU: Num Writes	Number of writes to the PLU portion of the hardware.
PLU: Num Copies	Number of copies to the PLU portion of the hardware.
PLU Memory Channel Statistics	Usage levels of each channel in the PLU memory.

# show uidb data

To display index data information for the micro-interface descriptor block (uIDB), use the **show uidb data** command in EXEC mode.

**show uidb data** [**shadow**] [**ingress**|**egress**] [*interface-type interface-instance*] **location** *node-id*

## Syntax Description

<b>shadow</b>	(Optional) Displays uIDB data from shadow copy Route Skill Mapping (RSM) instead of Metro HW.
<b>ingress</b>	(Optional) Displays ingress PSE-related information.
<b>egress</b>	(Optional) Displays egress PSE-related information.
<i>interface-type</i>	(Optional) Interface type. For more information, use the question mark (?) online help function.
<i>interface-instance</i>	<p>Either a physical interface instance or a virtual interface instance as follows:</p> <ul style="list-style-type: none"> <li>• Physical interface instance. Naming notation is <i>rack/slot/module/port</i> and a slash between values is required as part of the notation. <ul style="list-style-type: none"> <li>◦ <i>rack</i>: Chassis number of the rack.</li> <li>◦ <i>slot</i>: Physical slot number of the modular services card or line card.</li> <li>◦ <i>module</i>: Module number. A physical layer interface module (PLIM) is always 0.</li> <li>◦ <i>port</i>: Physical port number of the interface.</li> </ul> </li> </ul> <p><b>Note</b> In references to a Management Ethernet interface located on a route processor card, the physical slot number is alphanumeric (RP0 or RP1) and the module is CPU0. Example: interface MgmtEth0/RP1/CPU0/0.</p> <ul style="list-style-type: none"> <li>• Virtual interface instance. Number range varies depending on interface type.</li> </ul> <p>For more information about the syntax for the router, use the question mark (?) online help function.</p>
<b>location</b> <i>node-id</i>	(Optional) Displays micro-IDB index data information for a specified node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Default

No default behavior or values

## Command Modes

EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.
Release 3.5.0	Index and operation modes were not supported.
Release 3.7.0	The following keywords were added: <ul style="list-style-type: none"> <li>• shadow</li> <li>• ingress</li> <li>• egress</li> </ul>

**Usage Guidelines**

Use the **show uidb index** command to display micro-IDB index data information including, from a software perspective, features that are enabled on a selected interface.

**Task ID**

Task ID	Operations
cisco-support	read

**Examples**

The following example shows the output of the **show uidb data** command:

```
RP/0/0/CPU0:router# show uidb data shadow ingress gigabitEthernet 0/2/4/4 loc 0/2/CPU0
-----
Location = 0/2/CPU0
Ifname/Ifhandle = GigabitEthernet0_2_4_4 / 0x12800a0
Index = 5
Pse direction = INGRESS
=====
*      (Not programmed in hardware)      *
-----
RSM STATUS: 0x7c000000
-> used: 0x1f
->dirty: 0x00
->badck: 0x00
-> prog: DONE
->count: 0
-----
BUNDLE IFHANDLE: 0
TUNNEL IFHANDLE: 0
L2 ENCAP: 3
=====

General 16 bytes:
-----
IFHANDLE: 0x12800a
STATUS: 1
ISSU State: 0
IPV4 ENABLE: 1
IPV6 ENABLE: 1
MPLS ENABLE: 0
STATS POINTER: 0x7ffd8
```

```

SPRAYER QUEUE: 36
IPV4 MULTICAST: 0
IPV6 MULTICAST: 0
USE TABLE ID IPV4: 0
USE TABLE ID IPV6: 0
USE TABLE ID MPLS: 0
TABLE ID: 0
QOS ENABLE: 0
QOS ID: 0
NETFLOW SAMPLING PERIOD: 0
L2 PKT DROP: 0
L2 QOS ENABLE: 0
SRC FWDING: 0
*[CHECKSUM]*: 0xff70f28c
    
```

This table describes the significant fields shown in the display.

**Table 16: show uidb data Field Descriptions**

Field	Description
Location	Node in system where the interface resides.
Ifname/Ifhandle	Name associated with the interface.
SPRAYER QUEUE LSB	Sprayer queue identifier.
ICMP PUNT FLAG	Flag indicating ICMP punts are enabled for the protocol.

**Related Commands**

Command	Description
<a href="#">show uidb trace</a> , on page 82	Displays UIDB trace data debugging information that helps in troubleshooting the problem.
<b>show uidb data-dump</b>	Displays UIDB data information in hexadecimal format.

## show uidb trace

To display trace data information for the micro-interface descriptor block (IDB), use the **show uidb trace** command in EXEC mode.

```
show uidb trace {all| errors| events| init| rsm} [file file-name] [hexdump] [last entries] [reverse] [stats] [tailf] [unique] [usec] [verbose] [wide] [wrapping] [location {node-id| all| mgmt-nodes}]
```

### Syntax Description

<b>all</b>	Displays all UIDB trace information.
<b>errors</b>	Displays information related to UIDB errors trace.
<b>events</b>	Displays information related to UIDB events trace.
<b>init</b>	Displays information related to UIDB init trace.
<b>rsm</b>	Displays information related to UIDB rsm trace.
<b>file</b>	(Optional) Displays a specific file.
<i>filename</i>	Name of a specific file.
<b>hexdump</b>	(Optional) Displays traces in hexadecimal format.
<b>last</b>	(Optional) Displays trace information for a specific number of entries
<i>entries</i>	Number of entries. Replace entries with the number of entries you want to display. For example, if you enter 5, the display shows the last 5 entries in the trace data. The range is from 1 to 65536.
<b>reverse</b>	(Optional) Displays the latest traces first.
<b>stats</b>	(Optional) Displays the statistics in the command output.
<b>tailf</b>	(Optional) Displays the new traces as they are added in the command output.
<b>usec</b>	(Optional) Displays timestamp w/usec detail.
<b>wide</b>	(Optional) Do not display buffer name, node name, and thread-id.
<b>unique</b>	(Optional) Displays the unique entries with counts in the command output.
<b>verbose</b>	(Optional) Displays the information for internal debugging in the command output.
<b>wrapping</b>	(Optional) Displays the wrapping entries in the command output.
<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

<b>location all</b>	(Optional) Specifies all locations.
<b>location mgmt-nodes</b>	(Optional) Specifies all management nodes.

**Command Default** No default behavior or values

**Command Modes** EXEC

<b>Release</b>	<b>Modification</b>
Release 3.2	This command was introduced.
Release 3.5.0	Index and operation modes were not supported.

**Usage Guidelines**

<b>Task ID</b>	<b>Operations</b>
cisco-support	read

**Examples** The following example shows the sample output from the **show uidb trace** command:

```
RP/0/0/CPU0:router sh uidb trace init loc 0/6/CPU0
-----
28 wrapping entries (512 possible, 0 filtered, 28 total)
Mar 31 02:27:35.368 uidb_svr/initlog 0/6/CPU0 t1 Entering : Event manager init
Mar 31 02:27:36.641 uidb_svr/initlog 0/6/CPU0 t1 Successful : Event manager int
Mar 31 02:27:36.641 uidb_svr/initlog 0/6/CPU0 t1 Entering : Debug init
Mar 31 02:27:36.816 uidb_svr/initlog 0/6/CPU0 t1 Successful : Debug init
Mar 31 02:27:36.816 uidb_svr/initlog 0/6/CPU0 t1 Entering : MIPC bund
Mar 31 02:27:51.695 uidb_svr/initlog 0/6/CPU0 t1 Successful : MIPC bind
Mar 31 02:27:51.695 uidb_svr/initlog 0/6/CPU0 t1 PSE RSM : Init - main() : (50s
Mar 31 02:27:51.803 uidb_svr/initlog 0/6/CPU0 t1 Successful : PSE RSM Init succd
Mar 31 02:27:51.803 uidb_svr/initlog 0/6/CPU0 t1 Entering : Metro bind
Mar 31 02:27:51.828 uidb_svr/initlog 0/6/CPU0 t1 Successful : Metro bind
Mar 31 02:27:51.828 uidb_svr/initlog 0/6/CPU0 t1 Entering : PLIM ASIC register
Mar 31 02:27:51.922 uidb_svr/initlog 0/6/CPU0 t1 Successful : PLIM ASIC registr
Mar 31 02:27:51.922 uidb_svr/initlog 0/6/CPU0 t1 Entering : UIDB checkpoint int
Mar 31 02:27:51.944 uidb_svr/initlog 0/6/CPU0 t1 Successful : UIDB checkpoint t
Mar 31 02:27:51.944 uidb_svr/initlog 0/6/CPU0 t1 Entering : UIDB shadow memoryt
Mar 31 02:27:51.944 uidb_svr/initlog 0/6/CPU0 t1 Successful : UIDB shadow memot
Mar 31 02:27:51.944 uidb_svr/initlog 0/6/CPU0 t1 Entering : UIDB EDM init
Mar 31 02:27:51.951 uidb_svr/initlog 0/6/CPU0 t1 Successful : UIDB EDM init
Mar 31 02:27:51.951 uidb_svr/initlog 0/6/CPU0 t1 Entering : Checkpoint ingresse
Mar 31 02:27:51.951 uidb_svr/initlog 0/6/CPU0 t1 Successful : Checkpoint ingree
Mar 31 02:27:51.951 uidb_svr/initlog 0/6/CPU0 t1 Entering : Checkpoint egress e

Mar 31 02:27:51.951 uidb_svr/initlog 0/6/CPU0 t1 Successful : Checkpoint egress e
```

**Related Commands**

Command	Description
<a href="#">show uidb data</a> , on page 79	Displays UIDB index data information.
<b>show uidb data-dump</b>	Displays UIDB data information in hexadecimal format.

# show uidb index

To display micro-interface descriptor block (IDB) index information, use the **show uidb index** command in EXEC mode.

**show uidb index** [*interface-type interface-instance*] **location** *node-id*

## Syntax Description

<i>interface-type</i>	(Optional) Interface type. For more information, use the question mark (?) online help function.
<i>interface-instance</i>	<p>Either a physical interface instance or a virtual interface instance as follows:</p> <ul style="list-style-type: none"> <li>• Physical interface instance. Naming notation is <i>rack/slot/module/port</i> and a slash between values is required as part of the notation. <ul style="list-style-type: none"> <li>◦ <i>rack</i>: Chassis number of the rack.</li> <li>◦ <i>slot</i>: Physical slot number of the modular services card or line card.</li> <li>◦ <i>module</i>: Module number. A physical layer interface module (PLIM) is always 0.</li> <li>◦ <i>port</i>: Physical port number of the interface.</li> </ul> </li> </ul> <p><b>Note</b> In references to a Management Ethernet interface located on a route processor card, the physical slot number is alphanumeric (RP0 or RP1) and the module is CPU0. Example: interface MgmtEth0/RP1/CPU0/0.</p> <ul style="list-style-type: none"> <li>• Virtual interface instance. Number range varies depending on interface type.</li> </ul> <p>For more information about the syntax for the router, use the question mark (?) online help function.</p>
<b>location</b> <i>node-id</i>	Displays UIDB index information for a specified node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Default

No default behavior or values

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.2	This command was introduced.

**Usage Guidelines**

Use the **show uidb index** command to display the micro-IDB index assigned by the software.

**Task ID**

Task ID	Operations
cisco-support	read

**Examples**

The following example shows the output of the **show uidb index** command:

```
RP/0/0/CPU0:router# show uidb index
```

```
-----
```

Location	Interface-name	Interface-Type	Ingress-index	Egress-index
0/1/CPU0	0		0	0
0/1/CPU0	GigabitEthernet0_1_5_0	Main interface	1	
1				
0/1/CPU0	GigabitEthernet0_1_5_1	Main interface	2	
2				
0/1/CPU0	GigabitEthernet0_1_5_2	Main interface	3	
3				
0/1/CPU0	GigabitEthernet0_1_5_3	Main interface	4	
4				
0/1/CPU0	GigabitEthernet0_1_5_4	Main interface	5	
5				
0/1/CPU0	GigabitEthernet0_1_5_5	Main interface	6	
6				
0/1/CPU0	GigabitEthernet0_1_5_6	Main interface	7	
7				
0/1/CPU0	GigabitEthernet0_1_5_7	Main interface	8	
8				
0/1/CPU0	POS0_1_0_0	Main interface	9	9
0/1/CPU0	POS0_1_4_0	Main interface	10	10
0/1/CPU0	POS0_1_0_1	Main interface	11	11
0/1/CPU0	POS0_1_4_1	Main interface	12	12
0/1/CPU0	POS0_1_0_2	Main interface	13	13
0/1/CPU0	POS0_1_4_2	Main interface	14	14
0/1/CPU0	POS0_1_0_3	Main interface	15	15
0/1/CPU0	POS0_1_4_3	Main interface	16	16
0/1/CPU0	Bundle-POS24	Bundle Interface	17	17
0/1/CPU0	Bundle-Ether28	Bundle Interface	18	18
0/1/CPU0	Bundle-Ether28.1	Sub-interface	19	19
0/1/CPU0	Bundle-Ether28.2	Sub-interface	20	20
0/1/CPU0	Bundle-Ether28.3	Sub-interface	21	21
0/6/CPU0	0		0	0
0/6/CPU0	GigabitEthernet0_6_5_0	Main interface	1	
1				
0/6/CPU0	GigabitEthernet0_6_5_1	Main interface	2	
2				
0/6/CPU0	GigabitEthernet0_6_5_2	Main interface	3	
3				
0/6/CPU0	GigabitEthernet0_6_5_3	Main interface	4	
4				
0/6/CPU0	GigabitEthernet0_6_5_4	Main interface	5	
5				
0/6/CPU0	GigabitEthernet0_6_5_5	Main interface	6	
6				
0/6/CPU0	GigabitEthernet0_6_5_6	Main interface	7	
7				
0/6/CPU0	GigabitEthernet0_6_5_7	Main interface	8	
8				
0/6/CPU0	POS0_6_0_0	Main interface	9	9
0/6/CPU0	POS0_6_4_0	Main interface	10	10

0/6/CPU0	POS0_6_0_1	Main interface	11	11
0/6/CPU0	POS0_6_4_1	Main interface	12	12
0/6/CPU0	POS0_6_0_2	Main interface	13	13
0/6/CPU0	POS0_6_4_2	Main interface	14	14
0/6/CPU0	POS0_6_0_3	Main interface	15	15
0/6/CPU0	POS0_6_4_3	Main interface	16	16
0/6/CPU0	POS0_6_4_4	Main interface	17	17
0/6/CPU0	POS0_6_4_5	Main interface	18	18
0/6/CPU0	POS0_6_4_6	Main interface	19	19
0/6/CPU0	POS0_6_4_7	Main interface	20	20

This table describes the significant fields shown in the display.

**Table 17: show uidb index Field Descriptions**

Field	Description
Location	Node where index is located.
Interface-name	Name of the interface.
Interface-Type	Type of interface.
Ingress-index	Value associated with ingress processing on the interface.
Egress-index	Value associated with egress processing on the interface.

**Related Commands**

Command	Description
<a href="#">show uidb data</a> , on page 79	Displays micro-interface descriptor block index data information.
<b>show uidb data-dump</b>	Displays micro-interface descriptor block data information in hexadecimal format.

## watchdog threshold memory

To configure the value of memory available for each alarm threshold, use the **watchdog threshold memory** command in global configuration or interface configuration mode. To revert to the default threshold memory, use the **no** form of this command.

**watchdog memory threshold** [**location** *node-id*] **minor** *percentage-memory-available* **severe** *percentage-memory-available* **critical** *percentage-memory-available*

**no watchdog memory threshold** [**location** *node-id*] **minor** *percentage-memory-available* **severe** *percentage-memory-available* **critical** *percentage-memory-available*

### Syntax Description

<b>location</b> <i>node-id</i>	Configures the threshold memory for a specified node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>minor</b>	Specifies the threshold for the minor state.
<i>percentage-memory- available</i>	Memory consumption percentage. Range is from 5 to 40.
<b>severe</b>	Specifies the threshold for the severe state.
<b>critical</b>	Specifies the threshold for the critical state.

### Command Default

None

### Command Modes

Global configuration  
Interface configuration

### Command History

Release	Modification
Release 3.4.0	This command was introduced.

### Usage Guidelines

Use the **watchdog threshold memory** command to configure the memory thresholds. Threshold values can be applied to all nodes or a specific node using the **location** *node-id* keyword and argument. If the local threshold settings are removed, the local settings return to those set globally. In addition, you can view default and configured thresholds.

This table lists the recommended memory threshold value calculations if the minor threshold is set to 20 percent, the severe threshold is set to 10 percent, and the critical threshold is set to 5 percent.

**Table 18: Recommended Memory Threshold Values**

Total Available Memory (MB)	Minor Threshold (20 percent of available memory)	Severe Threshold (10 percent of available memory)	Critical Threshold (5 percent of available memory)
128	25.6	12.8	6.4
256	51.2	25.6	12.8
512	102.4	51.2	25.6
1024	204.8	102.4	51.2
2048	409.6	204.8	102.4
4096	819.2	409.6	204.8

**Task ID**

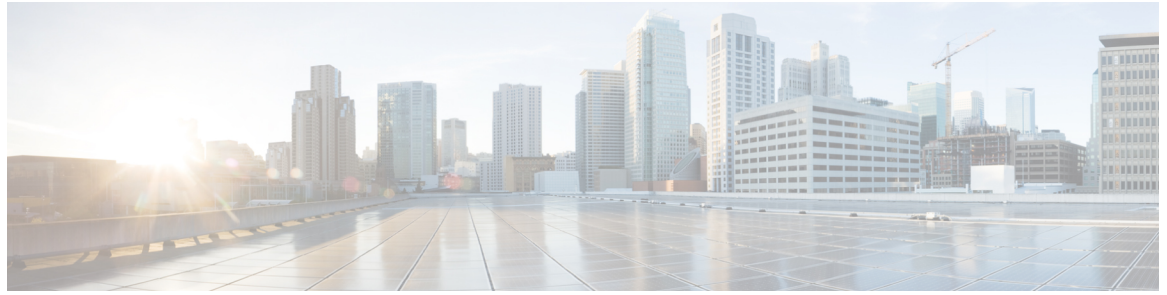
Task ID	Operations
cisco-support	read, write

**Examples**

The following example shows how to configure the memory available for each alarm threshold:

```
RP/0/0/CPU0:router #configure
RP/0/0/CPU0:router (config)# watchdog threshold memory location 0/RP0/CPU0 minor 30 severe
20 critical 10
```





## Fabric Management Commands

---

This module describes the Cisco IOS XR software commands used to monitor and control application-specific integrated circuit (ASIC) fabric queues for line cards .

- [clear fabricq counters all, page 92](#)
- [clear fabricq counters frfab, page 93](#)
- [clear fabricq counters tofab, page 95](#)
- [show controllers fabric, page 97](#)
- [show controllers fabricq drop, page 99](#)
- [show controllers fabricq errors, page 103](#)
- [show controllers fabricq frfab, page 105](#)
- [show controllers fabricq output, page 109](#)
- [show controllers fabricq queue, page 112](#)
- [show controllers fabricq registers, page 115](#)
- [show controllers fabricq tofab, page 118](#)

# clear fabricq counters all

To clear all counters going to fabric and coming back from fabric associated with the fabric queue driver, use the **clear fabricq counters all** command in administration EXEC mode.

**clear fabricq counters all location** *node-id*

## Syntax Description

<b>location</b> <i>node-id</i>	Identifies the node whose fabric counters you want to clear. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
--------------------------------	--

## Command Default

No default behavior or values

## Command Modes

Administration EXEC

## Command History

Release	Modification
Release 3.2	This command was introduced.
Release 3.5.0	The fabric taskID was removed from this command.

## Usage Guidelines

### Task ID

Task ID	Operations
root-system	read

## Examples

The following example shows how to clear all fabricq counters for the location 0/1/CPU0:

```
RP/0/0/CPU0:router # admin
RP/0/0/CPU0:router(admin)# clear fabricq counters all location 0/1/CPU0
```

## Related Commands

Command	Description
<a href="#">show controllers fabricq frfab</a> , on page 105	Displays output from the fabric statistics associated with the fabric queue driver.
<a href="#">show controllers fabricq tofab</a> , on page 118	Displays to fabric statistics associated with the fabric queue driver.

# clear fabricq counters frfab

To clear the from fabric queue counters that are associated with the fabric queue driver, use the **clear fabricq counters frfab** command in administration EXEC mode.

**clear fabricq counters frfab** [**all**| **error**| **packet**] **location** *node-id*

## Syntax Description

<b>all</b>	(Optional) Clears all counters.
<b>error</b>	(Optional) Clears error counters.
<b>packet</b>	(Optional) Clears packet counters.
<b>location</b> <i>node-id</i>	Identifies the node whose fabric counters you want to clear. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Default

All from fabric queue driver counters are cleared for the specified location

## Command Modes

Administration EXEC

## Command History

Release	Modification
Release 3.2	This command was introduced.
Release 3.5.0	The fabric taskID was removed from this command.

## Usage Guidelines


### Task ID

Task ID	Operations
root-system	read

## Examples

The following example shows how to clear the from fabric queue counters for the location 0/1/CPU0:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# clear fabricq counters frfab location 0/1/CPU0
```

 clear fabricq counters frfab**Related Commands**

Command	Description
<a href="#">show controllers fabricq frfab</a> , <a href="#">on page 105</a>	Displays output from the fabric statistics associated with the fabric queue driver.

# clear fabricq counters tofab

To clear the to fabric counters that are associated with the fabric queue driver, use the **clear fabricq counters tofab** command in administration EXEC mode.

**clear fabricq counters tofab** [**all**| **error**| **packet**] **location** *node-id*

## Syntax Description

<b>all</b>	(Optional) Clears all counters.
<b>error</b>	(Optional) Clears error counters.
<b>packet</b>	(Optional) Clears packet counters.
<b>location</b> <i>node-id</i>	Identifies the node whose fabric counters you want to clear. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Default

All to fabric queue driver counters are cleared for the specified location

## Command Modes

Administration EXEC

## Command History

Release	Modification
Release 3.2	This command was introduced.
Release 3.5.0	The fabric taskID was removed from this command.

## Usage Guidelines


### Task ID

Task ID	Operations
root-system	read

## Examples

The following example shows how to clear all to fabric queue counters for the location 0/1/CPU0:

```
RP/0/0/CPU0:router # admin
RP/0/0/CPU0:router (admin) # clear fabricq counters tofab location 0/1/CPU0
```

 clear fabricq counters tofab**Related Commands**

Command	Description
<a href="#">show controllers fabricq tofab</a> , <a href="#">on page 118</a>	Displays to fabric statistics associated with the fabric queue driver.

# show controllers fabric

To display fabric card information, use the **show controllers fabric** command in administration EXEC mode.

**show controllers fabric** [**clock**| **csc-fpga**| **fab-clk**| **fab-control**| **sca**| **xbar**]

## Syntax Description

<b>clock</b>	(Optional) Displays which fabric clock each slot is synchronized to and whether the clock is redundant or not.
<b>csc-fpga</b>	(Optional) Displays registers associated with the csc-fpga on each fabric card (FC).
<b>fab-clk</b>	(Optional) Displays registers associated with the fabric clock FPGA on all route processors (RPs), line cards (LCs), and FCs.
<b>fab-control</b>	(Optional) Displays the state of all RPs, LCs, and FCs in the chassis from a fabric control software perspective.
<b>sca</b>	(Optional) Displays registers associated with Scheduler Control ASIC on the CSC cards.
<b>xbar</b>	(Optional) Displays registers associated with the Cross Bar (XBAR) ASIC on the clock scheduler card (CSC) and switch fabric card (SFC).

## Command Default

All fabric card information is displayed

## Command Modes

Administration EXEC

## Command History

Release	Modification
Release 3.2	This command was introduced.

## Usage Guidelines

Use the **show controllers fabric** command to display various registers associated with the fabric cards and state information associated with the fabric control software.

## Task ID

Task ID	Operations
root-system	read, write

**Examples**

The following is sample output from the **show controllers fabric clock** command:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show controllers fabric clock
```

```
The Primary Clock for system is CSC_0
System Fabric Clock is Redundant
```

Slot #	Primary Clock	Mode
3	CSC_0	Redundant
4	CSC_0	Redundant
5	CSC_0	Redundant
11	CSC_0	Redundant
12	CSC_0	Redundant
15	CSC_0	Redundant
16	CSC_0	Redundant
17	CSC_0	Redundant
18	CSC_0	Redundant
19	CSC_0	Redundant
20	CSC_0	Redundant

# show controllers fabricq drop

To display the number of packets dropped to the fabric or from the fabric on a per-slot basis in the fabric queue driver, use the **show controllers fabricq drop** command in administration EXEC mode.

**show controllers fabricq drop [detail] [location *node-id*]**

Syntax Description	
<b>detail</b>	(Optional) Displays detailed statistical information.
<b>location <i>node-id</i></b>	(Optional) Displays statistical information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

**Command Default** Information about packet drops for all route processors (RPs) on the router is displayed

**Command Modes** Administration EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced.

**Usage Guidelines** Use the **show controllers fabricq drop** command to display statistics about packet drops. Specifying a location displays information only if that location is an RP. Use the **detail** keyword to display detailed output.



**Note** The **show controllers fabricq drop** command is typically used for debugging purposes.

Task ID	Task ID	Operations
	root-system	read, write

**Examples** The following is detailed sample output from the **show controllers fabricq drop** command for location 0/1/CPU0:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show controllers fabricq drop detail location 0/1/CPU0
Location 0/1/0:
```

## show controllers fabricq drop

## To Fabric dropped packets:

Slot	Tx-OVS	Tx-NHB	Tx-NPB	Tx-QF	Tx-LP	Tx-DS	Tx-MB	Tx-DIS	Tx-Total
-----									
Low Priority:									
0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
mcast	0	0	0	0	0	0	0	0	0
High Priority:									
0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0
mcast	0	0	0	0	0	0	0	0	0

## Legend:

Tx-OVS: Drops due to oversized packets  
 Tx-NHB: Drops due to missing packet header buffer  
 Tx-NPB: Drops due to missing packet payload buffer  
 Tx-QF: Drops because the queue is full  
 Tx-LP: Drops because the packet is low priority  
 Tx-DS: Drops because the destination slot is dead  
 Tx-MB: Drop counter for packets transmitted over MBUS (Not supported)  
 Tx-DIS: Drops because the tofab transmission is disabled

## From Fabric dropped packets:

Slot	Rx-REF	Rx-PKT	Rx-DEC	Rx-Total
-----				
0	0	0	0	0
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
15	0	0	0	0

## Legend:

Rx-REF: Drops in the FPGA reassembly  
 Rx-PKT: Drops due to invalid packet  
 Rx-DEC: Drops due to decoding the packet

This table describes the significant fields shown in the display.

**Table 19: show controllers fabricq drop Field Descriptions**

Field	Description
To Fabric dropped packets	Displays statistics about the transmitted packets that were dropped.
Slot	Slot that contains the fabric card whose statistics are displayed.
Tx-OVS <sup>9</sup>	Number of transmitted packets that were dropped because they were oversized.
Tx-NHB	Number of transmitted packets that were dropped because they were missing a packet header buffer.
Tx-NPB	Number of transmitted packets that were dropped because they were missing a packet payload buffer.
Tx-QF	Number of transmitted packets that were dropped because the queue is full.
Tx-LP	Number of transmitted packets that were dropped because they were low priority.
Tx-DS	Number of transmitted packets that were dropped because the destination slot is dead.
Tx-MB	Number of dropped transmitted packets that were sent over the Mbus.
Tx-DIS	Number of transmitted packets that were dropped because the tofab transmission is disabled.
Tx-Total	Total number of packets transmitted.
From Fabric dropped packets	Displays statistics about the received packets that were dropped.
Slot	Slot that contains the fabric card whose statistics are displayed.
Rx-REF	Number of received packets that were dropped in the FPGA reassembly.
Rx-PKT	Number of received packets that were dropped because they were invalid.

Field	Description
Rx-DEC	Number of received packets that were dropped due to decoding.
Rx-Total	Total number of received packets that were dropped.

<sup>9</sup> Optimized Voice Service

### Related Commands

Command	Description
<a href="#">show controllers fabricq errors, on page 103</a>	Displays the count of hardware errors associated with the fabric queue driver.
<a href="#">show controllers fabricq frfab, on page 105</a>	Displays output from the fabric statistics associated with the fabric queue driver.
<a href="#">show controllers fabricq output, on page 109</a>	Displays the fabric output service statistics associated with the fabric queue driver.
<a href="#">show controllers fabricq queue, on page 112</a>	Displays information about the hardware queues of the performance route processor chopper and assembler FPGAs.
<a href="#">show controllers fabricq registers, on page 115</a>	Displays the hardware registers of the chopper and assembler FPGAs.
<a href="#">show controllers fabricq tofab, on page 118</a>	Displays to fabric statistics associated with the fabric queue driver.

## show controllers fabricq errors

To display the count of hardware errors associated with the fabric queue driver, use the **show controllers fabricq errors** command in administration EXEC mode.

**show controllers fabricq errors** [*location node-id*]

<b>Syntax Description</b>	<b>location</b> <i>node-id</i>	(Optional) Displays statistical information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
---------------------------	--------------------------------	--

**Command Default** Information about errors for all route processors (RPs) on the router is displayed

**Command Modes** Administration EXEC

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 3.2	This command was introduced.

**Usage Guidelines** Use the **show controllers fabricq errors** command to display statistics about hardware errors. Specifying a location displays information only if that location is a RP.

The **show controllers fabricq errors** command is intended for use while performing debugging procedures.

<b>Task ID</b>	<b>Task ID</b>	<b>Operations</b>
	root-system	read, write

**Examples** The following is sample output from the **show controllers fabricq errors** command for location 0/1/CPU0:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show controllers fabricq errors location 0/1/CPU0
```

```
Location 0/1/0:
```

```
ToFab Errors:
```

Error Type	Error Count	Max Rate	Rate Exceeded	Count
SRAM Parity	0	2		0
DMA Address	0	100		0
DMA Size	0	100		0
Fusilli Parity	0	2		0
PCI TRANS64	0	2		0

```
PCI Address          0          2          0
```

This table describes the significant fields shown in the display.

**Table 20: show controllers fabricq errors Field Descriptions**

Field	Description
Error Count	Number of errors of each type.
Max Rate	Maximum number of errors of that type that can be received per second.
Rate Exceeded Count	Number of times that error has exceeded the Max Rate.  When the rate is exceeded, the software may try to restart the fabric queue driver and associated ASICs or FPGAs to correct the problem.

#### Related Commands

Command	Description
<a href="#">show controllers fabricq drop, on page 99</a>	Displays the number of packets dropped to the fabric or from the fabric on a per-slot basis in the fabric queue driver.
<a href="#">show controllers fabricq frfab, on page 105</a>	Displays output from the fabric statistics associated with the fabric queue driver.
<a href="#">show controllers fabricq output, on page 109</a>	Displays the fabric output service statistics associated with the fabric queue driver.
<a href="#">show controllers fabricq queue, on page 112</a>	Displays information about the hardware queues of the performance route processor chopper and assembler FPGAs.
<a href="#">show controllers fabricq registers, on page 115</a>	Displays the hardware registers of the chopper and assembler FPGAs.
<a href="#">show controllers fabricq tofab, on page 118</a>	Displays to fabric statistics associated with the fabric queue driver.

# show controllers fabricq frfab

To display output from the fabric statistics associated with the fabric queue driver, use the **show controllers fabricq frfab** command in administration EXEC mode.

**show controllers fabricq frfab** [**detail** | **trace options**] [**location node-id**]

## Syntax Description

<b>detail</b>	(Optional) Displays detailed statistical information.
<b>trace options</b>	(Optional) Displays detailed fabric queue driver trace information for a specific node. Replace the <i>options</i> argument with one or more of the following keywords or keyword arguments to specify the type and format of trace information displayed: <ul style="list-style-type: none"> <li>• <b>error</b>—Includes tofab error trace information in the command output.</li> <li>• <b>file word original</b>—Displays trace information for a specific file.</li> <li>• <b>hexdump</b>—Displays trace information in hexadecimal format.</li> <li>• <b>last entries</b> —Displays trace information for a specific number of entries. Replace the <i>entries argument</i> with the number of entries you want to display. For example, if you enter <b>5</b>, the display shows the last 5 entries in the trace data.</li> <li>• <b>packet</b>—Includes packet trace information in the command output.</li> <li>• <b>payload</b>—Includes payload trace information in the command output.</li> <li>• <b>reverse</b> —Displays the latest traces first.</li> <li>• <b>stats</b>—Includes trace statistics in the command output.</li> <li>• <b>tailf</b>—Includes new traces as they are added in the command output.</li> <li>• <b>unique</b>—Includes unique trace entries with counts in the command output.</li> <li>• <b>verbose</b>—Includes internal debugging information in the command output.</li> <li>• <b>wrapping</b>—Includes wrapping entries in the command output.</li> </ul>
<b>location node-id</b>	(Optional) Displays statistical information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Default

From fabric statistics are displayed for all route processors (RPs) on the router

## Command Modes

Administration EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.
Release 3.6.0	The <b>trace</b> keyword and <i>options</i> argument were added.

**Usage Guidelines**

Use the **show controllers fabricq frfab** command to display from fabric statistics. Specifying a location displays information only if that location is an RP. Use the **detail** keyword to display detailed output.

**Note**

The **show controllers fabricq frfab** command is typically used for debugging purposes.

**Task ID**

Task ID	Operations
root-system	read, write

**Examples**

The following is sample output from the **show controllers fabricq frfab** command for location 0/1/CPU0:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show controllers fabricq frfab location 0/1/CPU0
```

```
Location 0/1/0:
```

```
From Fabric Stats:
```

```
-----
Slot   Rx-pkts   Rx-TH-pkts Rx-dropped
1       0         3928        0
2       0         37309       0
3       0         43306       0
4       0         42681       0
5       0         35063       0
```

```
From Fabric Packet per Queue Stats:
```

```
-----
Packets received in queue 0 - 0
Packets received in queue 1 - 3928
Packets received in queue 2 - 150069
Packets received in queue 3 - 8290
```

```
From Fabric Error Stats:
```

```
-----
Bigger than MTU pkts      - 0
Corrupted pkts           - 0
SPD pkt count             - 0
No IDB drops              - 0
IDB queue tail drops     - 0
Chan corrupted pkts       - 0
First/Last err pkts      - 0
Sequence err pkts        - 0
Unknown Rx type           - 0
Output queue 0 full drops - 0
Output queue 1 full drops - 0
```

```

Output queue 2 full drops - 0
Output queue 3 full drops - 0
Output queue unmatched drops - 0
OQ 0 drops because FQ below threshold - 0
OQ 1 drops because FQ below threshold - 0
OQ 2 drops because FQ below threshold - 0
OQ 3 drops because FQ below threshold - 0

From Fabric Error Events:
-----
Fusilli parity errors- 0
Fusilli interface errors - 0
Free queue drop threshold events - 0
Free queue empty events - 0
Bad descriptors events - 0
Output queue 0 almost empty events - 0
Output queue 1 almost empty events - 0
Output queue 2 almost empty events - 0
Output queue 3 almost empty events - 0
OQ 0 drops because of ptr - 0 (Not implemented)
OQ 1 drops because of ptr - 0 (Not implemented)
OQ 2 drops because of ptr - 0 (Not implemented)
OQ 3 drops because of ptr - 0 (Not implemented)
Interrupt throttle events - 0
Spurious interrupt events - 0

Assembler memory statistics:
-----
Bufs enqueued to free queue - 163311
Bufs rxd from OQ - 162287
Bufs copied to public pool - 0 (Not implemented)
Bufs returned to the pool - 162287
Bufs returned by driver - 0 (Not implemented)
Bufs from driver to OS - 0 (Not implemented)

```

This table describes the significant fields shown in the display.

**Table 21: show controllers fabricq frfab Field Descriptions**

Field	Description
Rx-pkts	Number of packets received from the fabric.
Rx-TH-pkts	Number of “think hard” packets received from the fabric.
Rx-dropped	Number of packets received from the fabric that had to be dropped.

## Related Commands

Command	Description
<a href="#">show controllers fabricq drop, on page 99</a>	Displays the number of packets dropped to the fabric or from the fabric on a per-slot basis in the fabric queue driver.
<a href="#">show controllers fabricq errors, on page 103</a>	Displays the count of hardware errors associated with the fabric queue driver.
<a href="#">show controllers fabricq output, on page 109</a>	Displays the fabric output service statistics associated with the fabric queue driver.

Command	Description
<a href="#">show controllers fabricq queue, on page 112</a>	Displays information about the hardware queues of the performance route processor chopper and assembler FPGAs.
<a href="#">show controllers fabricq registers, on page 115</a>	Displays the hardware registers of the chopper and assembler FPGAs.
<a href="#">show controllers fabricq tofab, on page 118</a>	Displays to fabric statistics associated with the fabric queue driver.

# show controllers fabricq output

To display the fabric output service statistics associated with the fabric queue driver, use the **show controllers fabricq output** command in administration EXEC mode.

**show controllers fabricq output** [*location node-id*]

## Syntax Description

<b>location</b> <i>node-id</i>	(Optional) Displays statistical information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
--------------------------------	--

## Command Default

Information is displayed for all route processors (RPs) on the router..

## Command Modes

Administration EXEC

## Command History

Release	Modification
Release 3.2	This command was introduced.

## Usage Guidelines

Use the **show controllers fabricq output** command to display to fabric output service statistics. Specifying a location displays information only if that location is an RP.

The service time is the time from when the RP CPU has made the packet ready to be sent to the slot to when the Field-Programmable Gate Array (FPGA) has put the packet on the queue to that particular slot.



### Note

The **show controllers fabricq output** command is typically used for debugging purposes.

## Task ID

Task ID	Operations
root-system	read, write

## Examples

The following is sample output from the **show controllers fabricq output** command for location 0/1/CPU0:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show controllers fabricq output location 0/1/CPU0

Location 0/1/0:

To Fabric servicing time statistics:
```

```

-----
  Slot   Minimum   Maximum   Average   Timeouts
Low Priority:
  0       0         0         0         0
  1       0         0         0         0
  2       0         10        0         0
  3       0         21        0         0
  4       0         0         0         0
  5       0         0         0         0
  6       0         0         0         0
  7       0         0         0         0
  8       0         0         0         0
  9       0         0         0         0
 10      0         0         0         0
 11      0         0         0         0
 12      0         0         0         0
 13      0         0         0         0
 14      0         0         0         0
 15      0         0         0         0
mcast   0         0         0         0
High Priority:
  0       0         0         0         0
  1       0         22        0         0
  2       0         96        0         0
  3       0         13        0         0
  4       0         12        0         0
  5       0         14        0         0
  6       0         0         0         0
  7       0         0         0         0
  8       0         0         0         0
  9       0         0         0         0
 10      0         0         0         0
 11      0         0         0         0
 12      0         0         0         0
 13      0         0         0         0
 14      0         0         0         0
 15      0         0         0         0
mcast   0         6         0         0

```

This table describes the significant fields shown in the display.

**Table 22: show controllers fabricq output Field Descriptions**

Field	Description
Slot	Slot to which the packets are sent.
Minimum	Lowest service time of all the packets sent to that slot.
Maximum	Highest service time of all the packets sent to that slot.
Average	Average service time of all the packets sent to that slot.
Timeouts	Number of times a packet's service time has exceeded a threshold of 200 milliseconds (the packet is dropped).

**Related Commands**

<b>Command</b>	<b>Description</b>
<a href="#">show controllers fabricq drop, on page 99</a>	Displays the number of packets dropped to the fabric or from the fabric on a per-slot basis in the fabric queue driver.
<a href="#">show controllers fabricq errors, on page 103</a>	Displays the count of hardware errors associated with the fabric queue driver.
<a href="#">show controllers fabricq frfab, on page 105</a>	Displays output from the fabric statistics associated with the fabric queue driver.
<a href="#">show controllers fabricq queue, on page 112</a>	Displays information about the hardware queues of the performance route processor chopper and assembler FPGAs.
<a href="#">show controllers fabricq registers, on page 115</a>	Displays the hardware registers of the chopper and assembler FPGAs.
<a href="#">show controllers fabricq tofab, on page 118</a>	Displays to fabric statistics associated with the fabric queue driver.

# show controllers fabricq queue

To display information about the hardware queues of the performance route processor chopper and assembler FPGAs, use the **show controllers fabricq queue** command in administration EXEC mode.

**show controllers fabricq queue** [**detail**] [**location** *node-id*]

## Syntax Description

<b>detail</b>	(Optional) Displays detailed statistical information.
<b>location</b> <i>node-id</i>	(Optional) Displays statistical information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Default

Information for all performance route processors on the router is displayed

## Command Modes

Administration EXEC

## Command History

Release	Modification
Release 3.2	This command was introduced.

## Usage Guidelines

Use the **show controllers fabricq queue** command to display information about packet queues. Specifying a location displays information only if that location is an RP.

This command is intended for use while performing debugging procedures.

## Task ID

Task ID	Operations
root-system	read, write

## Examples

The following is detailed sample output from the **show controllers fabricq queue** command for the location 0/1/CPU0:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show controllers fabricq queue detail location 0/1/CPU0

Location 0/1/0:

To Fabric Queue Stats:
-----
  Slot  EnQueued  DeQueued  Cur-Entrys  Max-Entrys  Blocked  BP count
Low Priority:
```

```

0          0          0          0          0          No          0
1          0          0          0          0          No          0
2          300         300         0          2          No          0
3          8428        8428         0          12         No          0
4          0           0           0          0          No          0
5          0           0           0          0          No          0
6          0           0           0          0          No          0
7          0           0           0          0          No          0
8          0           0           0          0          No          0
9          0           0           0          0          No          0
10         0           0           0          0          No          0
11         0           0           0          0          No          0
12         0           0           0          0          No          0
13         0           0           0          0          No          0
14         0           0           0          0          No          0
15         0           0           0          0          No          0
mcast     0           0           0          0          No          0
High Priority:
0          0           0           0          0          No          0
1          7882        7882         0          2          No          0
2          62330       62330        0          36         No          0
3          60752       60752        0          100        No          0
4          72588       72588        0          36         No          0
5          60876       60876        0          100        No          0
6          0           0           0          0          No          0
7          0           0           0          0          No          0
8          0           0           0          0          No          0
9          0           0           0          0          No          0
10         0           0           0          0          No          0
11         0           0           0          0          No          0
12         0           0           0          0          No          0
13         0           0           0          0          No          0
14         0           0           0          0          No          0
15         0           0           0          0          No          0
mcast     19562       19562        0          200        No          0
Free packet header buffers 7680
From Fabric Queue Stats:
-----
Queue  Allocated      Free
0          0          512
1          0          512
2          0          512
3          0          512
F/Q          87          937

```

**Examples**

This table describes the significant fields shown in the display.

**Table 23: show controllers fabricq queue Field Descriptions**

Field	Description
Slot	Slot or queue to which the packets are sent.
EnQueued	Number of entries enqueued for that queue.
DeQueued	Number of entries dequeued for that queue.
Cur-Entrys	Number of entries currently for that queue.
Max-Entrys	Highest number of entries for that queue.
Blocked	Yes or No if that queue is blocked.

Field	Description
BP count	Back-pressure count, which is the number of times the queue got full.
Queue	Priority queues receiving packets; 0 is the highest priority. The F/Q entry is the software free packet queue.
Allocated	Number of packets in that queue.
Free	Number of packets available for that queue.

**Related Commands**

Command	Description
<a href="#">show controllers fabricq drop, on page 99</a>	Displays the number of packets dropped to the fabric or from the fabric on a per-slot basis in the fabric queue driver.
<a href="#">show controllers fabricq errors, on page 103</a>	Displays the count of hardware errors associated with the fabric queue driver.
<a href="#">show controllers fabricq frfab, on page 105</a>	Displays output from the fabric statistics associated with the fabric queue driver.
<a href="#">show controllers fabricq output, on page 109</a>	Displays the fabric output service statistics associated with the fabric queue driver.
<a href="#">show controllers fabricq registers, on page 115</a>	Displays the hardware registers of the chopper and assembler FPGAs.
<a href="#">show controllers fabricq tofab, on page 118</a>	Displays to fabric statistics associated with the fabric queue driver.

# show controllers fabricq registers

To display the hardware registers of the chopper and assembler FPGAs, use the **show controllers fabricq registers** command in administration EXEC mode.

**show controllers fabricq registers [detail] [location *node-id*]**

Syntax Description	detail	(Optional) Displays detailed statistical information.
	<b>location</b> <i>node-id</i>	(Optional) Displays statistical information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

**Command Default** Information for all route processors (RPs) on the router is displayed

**Command Modes** Administration EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced.

**Usage Guidelines** Use the **show controllers fabricq registers** command to display the hardware registers of the chopper and assembler FPGAs. Specifying a location displays information only if that location is an RP.  
This command is intended for use while performing debugging procedures.

Task ID	Task ID	Operations
	root-system	read, write

**Examples** The following is sample output from the **show controllers fabricq registers** command for location 0/1/CPU0:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show controllers fabricq registers location 0/1/CPU0

Location 0/1/0:

Chopper Registers:
-----
FPGA Version                00020012
HP Descriptor fetch enable  00010000
Descriptor array size       000003FF
```

## show controllers fabricq registers

```

Interrupt cause                00000000
Interrupt mask                 FC01FFFF
LP Descriptor fetch enable     00000008
HP Interrupt desc afull       00000000
LP Interrupt desc afull       00000000
Discovery low control reg base address F1000840
Discovery next desc reg base address F1000830
Chopper PCI base address      F0000000
HP Descriptor queue empty status 0001FFFF
HP Descriptor queue almost full 00000000
Data queue empty status       0001FFFF
Data queue almost full        00000000
LP Descriptor queue empty status 0001FFFF
LP Descriptor queue almost full 00000000
SRAM Descriptor threshold     000003F0
SRAM Data threshold          000007F0
DMA Control                   000000DD
Back pressure status          00000000
Fusilli Tx Enable            0001FFFF
Cell count                   0030CDA1
Reset VOQ                     00000000
DMA Busy Status              00000000
DMA Done Status              000000DD
HP Descriptor start addr for queue 0 0B448000
HP Descriptor start addr for queue 1 0B44A000
HP Descriptor start addr for queue 2 0B44C000
HP Descriptor start addr for queue 3 0B44E000
HP Descriptor start addr for queue 4 0B450000
HP Descriptor start addr for queue 5 0B452000
HP Descriptor start addr for queue 6 0B454000
HP Descriptor start addr for queue 7 0B456000
HP Descriptor start addr for queue 8 0B458000
HP Descriptor start addr for queue 9 0B45A000
HP Descriptor start addr for queue 10 0B45C000
HP Descriptor start addr for queue 11 0B45E000
HP Descriptor start addr for queue 12 0B460000
HP Descriptor start addr for queue 13 0B462000
HP Descriptor start addr for queue 14 0B464000
HP Descriptor start addr for queue 15 0B466000
HP Descriptor start addr for queue 16 0B468000
LP Descriptor start addr for queue 0 0B426000
LP Descriptor start addr for queue 1 0B428000
LP Descriptor start addr for queue 2 0B42A000
LP Descriptor start addr for queue 3 0B42C000
LP Descriptor start addr for queue 4 0B42E000
LP Descriptor start addr for queue 5 0B430000
LP Descriptor start addr for queue 6 0B432000
LP Descriptor start addr for queue 7 0B434000
LP Descriptor start addr for queue 8 0B436000
LP Descriptor start addr for queue 9 0B438000
LP Descriptor start addr for queue 10 0B43A000
LP Descriptor start addr for queue 11 0B43C000
LP Descriptor start addr for queue 12 0B43E000
LP Descriptor start addr for queue 13 0B440000
LP Descriptor start addr for queue 14 0B442000
LP Descriptor start addr for queue 15 0B444000
LP Descriptor start addr for queue 16 0B446000

```

## Assembler Registers:

```

-----
Version                0002000D
Chip Config            0000000F
Int Mask               00000000
Output Queue Threshold 00000033
Low Pri Req level      00000030
High Pri Req level     00000060
Free Queue Size        00001000
Free Queue Base        0B3A6000
Free Queue Rd Pointer  0B3A6380
Free Queue Wr Pointer  0B3A61C0
Output Queue Size      00001000
Output Queue 0 Base Addr 0B3A8000
Output Queue 0 Write Addr 0B3A8000

```

```

Output Queue 0 Read Addr 0B3A8000
Output Queue 0 Match C0000200
Output Queue 0 Mask 00003E00
Output Queue 1 Base Addr 0B3AA000
Output Queue 1 Write Addr 0B3AAB58
Output Queue 1 Read Addr 0B3AAB58
Output Queue 1 Match C0000C00
Output Queue 1 Mask 00003E00
Output Queue 2 Base Addr 0B3AC000
Output Queue 2 Write Addr 0B3AC4D0
Output Queue 2 Read Addr 0B3AC4D0
Output Queue 2 Match C0000400
Output Queue 2 Mask 00003C00
Output Queue 3 Base Addr 0B3AE000
Output Queue 3 Write Addr 0B3AE360
Output Queue 3 Read Addr 0B3AE360
Output Queue 3 Match C0000000
Output Queue 3 Mask 00000000
Discard Buffer Addr 0A1AC700
REFIM config 00000000
REFIM Max Packet Len 000000C1

```

**Related Commands**

Command	Description
<a href="#">show controllers fabricq drop, on page 99</a>	Displays the number of packets dropped to the fabric or from the fabric on a per-slot basis in the fabric queue driver.
<a href="#">show controllers fabricq errors, on page 103</a>	Displays the count of hardware errors associated with the fabric queue driver.
<a href="#">show controllers fabricq frfab, on page 105</a>	Displays output from the fabric statistics associated with the fabric queue driver.
<a href="#">show controllers fabricq output, on page 109</a>	Displays the fabric output service statistics associated with the fabric queue driver.
<a href="#">show controllers fabricq queue, on page 112</a>	Displays information about the hardware queues of the performance route processor chopper and assembler FPGAs.
<a href="#">show controllers fabricq tofab, on page 118</a>	Displays to fabric statistics associated with the fabric queue driver.

# show controllers fabricq tofab

To display to fabric statistics associated with the fabric queue driver, use the **show controllers fabricq tofab** command in administration EXEC mode.

**show controllers fabricq tofab** [**detail** [**location** *node-id*]] **trace** *options* **location** *node-id*

## Syntax Description

<b>detail</b>	(Optional) Displays detailed statistical information.
<b>trace</b> <i>options</i>	<p>(Optional) Displays detailed fabric queue driver trace information for a specific node. Replace the <i>options</i> argument with one or more of the following keywords or keywords and arguments to specify the type and format of trace information displayed:</p> <ul style="list-style-type: none"> <li>• <b>error</b>—Includes tofab error trace information in the command output.</li> <li>• <b>file</b> <i>word</i> <b>original</b>—Displays trace information for a specific file.</li> <li>• <b>header</b>—Includes tofab header trace information in the command output.</li> <li>• <b>hexdump</b>—Display trace information in hexadecimal format.</li> <li>• <b>last</b> <i>entries</i> —Display trace information for a specific number of entries. Replace the <i>entries</i> argument with the number of entries you want to display. For example, if you enter <b>5</b>, the display will show the last 5 entries in the trace data.</li> <li>• <b>payload</b>—Includes payload trace information in the command output.</li> <li>• <b>reverse</b>—Displays the latest traces first.</li> <li>• <b>stats</b>—Includes trace statistics in the command output.</li> <li>• <b>tailf</b>—Includes new traces as they are added in the command output.</li> <li>• <b>unique</b>—Includes unique trace entries with counts in the command output.</li> <li>• <b>verbose</b>—Includes internal debugging information in the command output.</li> <li>• <b>wrapping</b>—Includes wrapping entries in the command output.</li> </ul>
<b>location</b> <i>node-id</i>	(Optional) Displays statistical or trace information for the designated node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Default

Statistical information is displayed for all route processors (RPs) on the router

## Command Modes

Administration EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

**Usage Guidelines**

Use the **show controllers fabricq tofab** command to display to fabric statistics. Specifying a location displays information only if that location is an RP.

The **show controllers fabricq tofab** command is intended for use while performing debugging procedures.

**Task ID**

Task ID	Operations
root-system	read, write

**Examples**

The following is sample output from the **show controllers fabricq tofab** command for location 0/1/CPU0:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show controllers fabricq tofab location 0/1/CPU0

Location 0/1/0:

To Fabric Stats:
-----
Slot   Tx-pkts   Tx-TH-pkts Tx-dropped Tx-DMA
Low Priority:
3       0         446         0         446
High Priority:
1       0         248         0         248
2       0        13696         0        13696
3       0        14347         0        14347
4       0        15889         0        15889
5       0        14351         0        14351
mcast  0         2182         0         2182

To Fabric Errors:
-----
Failed sends because of no header bufs - 0
Failed sends because of no payload bufs - 0
SRAM parity errors - 0
DMA errors - 0
Fusilli Parity errors - 0
```

This table describes the significant fields shown in the display.

**Table 24: show controllers fabricq tofab Field Descriptions**

Field	Description
Tx-pkts	Number of packets sent to that slot.
Tx-TH-pkts	Number of “think hard” packets sent to that slot.

Field	Description
Tx-dropped	Number of dropped packets sent to that slot.
Tx-DMA	Number of direct memory accesses (DMA) to send the packet to that slot.

**Related Commands**

Command	Description
<a href="#">show controllers fabricq drop, on page 99</a>	Displays the number of packets dropped to the fabric or from the fabric on a per-slot basis in the fabric queue driver.
<a href="#">show controllers fabricq errors, on page 103</a>	Displays the count of hardware errors associated with the fabric queue driver.
<a href="#">show controllers fabricq frfab, on page 105</a>	Displays output from the fabric statistics associated with the fabric queue driver.
<a href="#">show controllers fabricq output, on page 109</a>	Displays the fabric output service statistics associated with the fabric queue driver.
<a href="#">show controllers fabricq queue, on page 112</a>	Displays information about the hardware queues of the performance route processor chopper and assembler FPGAs.
<a href="#">show controllers fabricq registers, on page 115</a>	Displays the hardware registers of the chopper and assembler FPGAs.



## Tech-Support Commands

---

This module describes commands used for displaying the output of **show** commands using Cisco IOS XR software. The command output varies depending on the router platform and configuration.

The **show tech-support** commands all display common data from commands such as **show version**. Each **show tech-support** command also generates and gathers relevant data for a specific area. This data includes trace output to collect debugging information available in the specific area of interest.

- [show system verify, page 123](#)
- [show tech-support, page 127](#)
- [show tech-support aps, page 131](#)
- [show tech-support asic , page 143](#)
- [show tech-support bcdl , page 146](#)
- [show tech-support bundles, page 149](#)
- [show tech-support cef, page 152](#)
- [show tech-support cfgmgr, page 156](#)
- [show tech-support chdlc, page 158](#)
- [show tech-support control-ethernet , page 160](#)
- [show tech-support dsc, page 165](#)
- [show tech-support ethernet, page 170](#)
- [show tech-support fabric , page 173](#)
- [show tech-support gsp , page 177](#)
- [show tech-support igmp snooping, page 181](#)
- [show tech-support install, page 189](#)
- [show tech-support l2tp, page 193](#)
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- [show tech-support services](#), page 287
- [show tech-support snmp](#), page 289
- [show tech-support spaipc](#), page 291
- [show tech-support sysdb](#), page 296
- [show tech-support terminal](#), page 298
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- [show tty details](#), page 305

# show system verify

To verify the system parameters, use the **show system verify** command in EXEC mode.

**show system verify** [**start**| **restart** [**detail**]]

Syntax Description		
	<b>start</b>	(Optional) Performs an initial analysis of the system and stores the information for subsequent verification.
	<b>report</b>	(Optional) Generates a report for the system verification process.
	<b>detail</b>	(Optional) Generates a detailed report for the system verification process.

**Command Default** No default behavior or values

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced.

**Usage Guidelines** You must run the **show system verify** command with the **start** keyword before generating any reports.

Task ID	Task ID	Operations
	system	read

**Examples** The following example shows how to prepare for system verification:

```
RP/0/0/CPU0:router# show system verify start
Storing initial router status ...
done.
```

The following example shows output from running the **show system verify** command:

```
RP/0/0/CPU0:router# show system verify

Getting current router status ...
System Verification Report
=====
- Verifying Memory Usage
- Verified Memory Usage : [OK]
- Verifying CPU Usage
- Verified CPU Usage : [OK]

- Verifying Blocked Processes
- Verified Blocked Processes : [OK]
- Verifying Aborted Processes
- Verified Aborted Processes : [OK]
- Verifying Crashed Processes
- Verified Crashed Processes : [OK]

- Verifying LC Status
- Verified LC Status : [OK]
- Verifying QNET Status
Unable to get current LC status info
- Verified QNET Status : [FAIL]

- Verifying GSP Fabric Status
- Verified GSP Fabric Status : [OK]
- Verifying GSP Ethernet Status
gsp WARNING messages for router
Current set of gsp ping nodes does not match initial set of nodes
- Verified GSP Ethernet Status : [WARNING]

- Verifying POS interface Status
- Verified POS interface Status : [OK]
- Verifying TenGigE interface Status
- Verified TenGigE interface Status : [OK]

- Verifying TCP statistics
- Verified TCP statistics : [OK]
- Verifying UDP statistics
tcp_udp_raw WARNING messages for router
UDP Packets sent has not increased during this period.
- Verified UDP statistics : [WARNING]
- Verifying RAW statistics
- Verified RAW statistics : [OK]

- Verifying RIB Status
- Verified RIB Status : [OK]
- Verifying CEF Status
- Verified CEF Status : [OK]
- Verifying CEF Consistency Status
- Verified CEF Consistency Status : [OK]
- Verifying BGP Status
- Verified BGP Status : [OK]
- Verifying ISIS Status
- Verified ISIS Status : [OK]
- Verifying OSPF Status
- Verified OSPF Status : [OK]

- Verifying Syslog Messages
- Verified Syslog Messages : [OK]

System may not be stable. Please look into WARNING messages.
```

This table describes the significant fields shown in the display.

**Table 25: show system verify Field Descriptions**

Field	Description
Type	Type of memory
Initial	Initial usage determined when the command is run with the <b>start</b> keyword
Current	Current usage
Application	Memory used for applications
Available	Memory available for applications
Physical	Total physical memory
nodes	Devices in the system such as linecards, route processors, fabric cards, and so forth
blocked processes	Number of blocked processes on the router
aborted processes	Number of aborted processes on the router
crashed processes	Number of crashed processes on the router
LC Status on Router	Linecard status
QNET Status on router	Internal communications protocol status
GSP Fabric Status on router	Internal communications protocol status
GSP Ethernet Status on router	Internal communications protocol status
POS Interface Status on router	Packet-over-SONET status
Protocol	Protocol on the interface
IP address	IP Address of the interface
Encapsulation	Encapsulation method used on the interface
MTU	Maximum Transmission Units for the interface
Keep alive	Keep alives messages on the interface
Packets Input	Total number packets input to the interface
Bytes Input	Total number of bytes input to the interface
Packets Output	Total number of packets output by the interface

Field	Description
Byte Output	Total number of bytes output by the interface
TenGigE interface Status on router	10 Gigabit Ethernet interface status
TCP statistics on router	Transmission Control Protocol statistics
UDP statistics on router	User Datagram Protocol statistics
RAW statistics on router	RAW statistics
PCBs	Protocol Control Blocks
RIB Status on router	Routing Information Base status
CEF Status on node.....	Cisco Express Forwarding status
CEF Consistency Status on router	Cisco Express Forwarding consistency status
BGP Status on router	Border Gateway Protocol status
neighbors	Number of BGP neighbors
established	Number of BGP neighbors in 'established' state
ISIS Status on router	Intermediate System-to-Intermediate System status
up	Number of ISIS links up
failed	Number of failed ISIS links
init	Initial number of ISIS links
OSPF Status on router	Open Shortest Path First status
interfaces	Number of interfaces configured in OSPF
interfaces_up	Number of interfaces configured in OSPF that are in the 'up' state
virtual_int	Number of virtual interfaces
neighbors	Number of OSPF neighbors configured
neighbors_adj	Number of OSPF configured neighbors that are 'adjacent'
Syslog Messages on router	Number of syslog messages

# show tech-support

To automatically run **show** commands that display system information, use the **show tech-support** command in the EXEC and administration EXEC modes .

```
show tech-support [password] {terminal [page]| file send-to [background] [compressed|uncompressed]}
[location node-id]
```

## Syntax Description

<b>password</b>	(Optional) Leaves passwords and other security information in the output. If not used, passwords and other security-sensitive information in the output are replaced with the label "<removed>".
<b>terminal</b>	Displays command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.

<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

**Command Default**

The command output is not compressed.  
 Passwords and other security information are not displayed.

**Command Modes**

Administration EXEC  
 EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy hddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

**Note**

This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support** command:

- **show running-config**
- **show version**
- **show interfaces**
- **show arm summary**
- **show arm conflicts**

- **show install**
- **show filesystem**
- **dir location all: pwd = disk0:**
- **dir location all: pwd = bootflash:**
- **run top\_procs**
- **show processes aborts location all**
- **show processes blocked location all**
- **show placement nodes all**
- **show placement policy program all**
- **show memory summary location all**
- **show lpts ifib brief**
- **show im database all**
- **run gsp\_show**
- **show context all location all**
- **show redundancy**
- **show dsc all**
- **show lr all**
- **show ipv4 traffic**
- **show ipv6 traffic**
- **show logging**
- **show inventory**
- **show packet-memory**
- **show packet-memory corrupt**
- **show packet-memory failures**
- **show platform**
- **show led**
- **show buffer reserved-memory**
- **show controllers fabricq eio links all**
- **show controllers pse eio links all**
- **show controllers plim asic pla eio links all**
- **show controllers fia eio links all**
- **show controllers cpuctrl summary**
- **admin show controllers fabric plane all**

- **admin show controllers fabric plane all stat**
- **admin show controllers fabric sfe fabricq all detail**
- **admin show controllers fabric sfe ingressq all detail**
- **admin show controllers fabric sfe s1 all detail**
- **admin show controllers fabric sfe s2 all detail**
- **admin show controllers fabric sfe s3 all detail**
- **show environment all**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

<b>Task ID</b>	<b>Operations</b>
basic-services or cisco-support	read

## show tech-support aps

To automatically run **show** commands that display debugging information related to automatic protection switching (APS), use the **show tech-support aps** command in the EXEC mode. This command collects APS traces and sonet local traces across all locations and also **show controller** and **show aps** commands for all ports and groups.

**show tech-support aps file** *send-to* [**group**] **show-only** [**location** *node-id*]

### Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>group</b>	(Optional) Displays the show group commands with no trace for APS debugging.
<b>show-only</b>	(Optional) Displays the show commands with no trace for APS debugging.
<b>terminal</b>	(Optional) Specifies that the command output is displayed on the terminal.
<b>location</b>	(Optional) Specifies a node.
<i>node-id</i>	(Optional) Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

**Command Default** The command output is not compressed.

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.9.0	This command was introduced.

### Usage Guideline

#### Tip

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support aps** command to run **show** commands that display APS debugging information. This command generates information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.



#### Note

This command is not required during normal use of the router.

Task ID	Task ID	Operations
	basic-services	read

**Examples** The following example shows a truncated output of the **show tech-support aps** command:

```
RP/0/0/CPU0:router# show tech-support aps show-only terminal
```

```
-----
show tech-support aps
-----
```

```
----- show aps -----
```

```
no aps group found
```

```
----- show aps agents -----
```

APS shows Agent: sysdb\_datalist failed: ('sysdb' detected the 'warning' conditi)

----- show controller sonet \* -----

Port SONET0/6/0/0:

Status: Up

Loopback: None

```
SECTION
  LOF = 0          LOS   = 1          BIP(B1) = 0
LINE
  AIS = 0          RDI   = 1          FEBE = 0          BIP(B2) = 0
PATH
  AIS = 0          RDI   = 1          FEBE = 0          BIP(B3) = 0
  LOP = 0          NEWPTR = 0        PSE  = 0          NSE   = 0
  PLM = 0          TIM   = 0          UNEQ = 0
```

```
Line delays trigger:      0 ms clear: 10000 ms
Path delays trigger:      0 ms,      0 ms (configured), clear: 10000 ms
Last clearing of "show controllers SONET" counters never
```

```
Detected Alarms: None
Asserted Alarms: None
Mask for Detected->Asserted: None
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: None
Alarm reporting enabled for: SLOS SLOF SF BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA
```

```
Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable C2_rx = 0x16 (22) C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0 S1S0(rx): 0x0 / Framing Derived
```

```
PATH TRACE BUFFER : STABLE
Remote hostname : P11 CRS-4
Remote interface: POS0/2/0/0
Remote IP addr  : 10.111.4.11
```

```
APS
No APS Group Configured
Rx(K1/K2) : 0x00/0x00
Tx(K1/K2) : 0x00/0x00
Remote Rx(K1/K2): 01/0 Remote Tx(K1/K2): 01/0
```

```
BER thresholds: SF = 10e-3 SD = 10e-6
TCA thresholds: B1 = 10e-6 B2 = 10e-6 B3 = 10e-6
```

```
Optics type: OC3 SR-1/STM1 MM
Clock source: internal (actual) internal (configured)
Rx S1: 0xf Tx S1: 0xf
```

```
Optical Power Monitoring (accuracy: +/- 1dB)
Rx power = 0.0160 mW, -18.0 dBm
Tx power = 0.0000 mW, -inf dBm
Tx laser current bias = 0.0 mA
```

Port SONET0/6/0/1:

Status: Up

Loopback: None

```
SECTION
  LOF = 0          LOS   = 1          BIP(B1) = 0
LINE
  AIS = 0          RDI   = 0          FEBE = 0          BIP(B2) = 0
```

## show tech-support aps

```

PATH
  AIS = 0          RDI = 0          FEBE = 0          BIP(B3) = 0
  LOP = 0          NEWPTR = 0       PSE = 0          NSE = 0
  PLM = 0          TIM = 0          UNEQ = 0

Line delays trigger:      0 ms clear: 10000 ms
Path delays trigger:     0 ms,      0 ms (configured), clear: 10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: None
Asserted Alarms: None
Mask for Detected->Asserted: None
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: None
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0x16 (22)   C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0   S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : STABLE
  Remote hostname : P2_CRS-8
  Remote interface: POS0/6/0/1
  Remote IP addr  : 10.12.8.2

APS
No APS Group Configured
Protect Channel 0   DISABLED
Rx(K1/K2) : 0x00/0x00
Tx(K1/K2) : 0x00/0x00
Remote Rx(K1/K2): 01/0   Remote Tx(K1/K2): 01/0

BER thresholds: SF = 10e-3   SD = 10e-6
TCA thresholds: B1 = 10e-6   B2 = 10e-6   B3 = 10e-6

Optics type: OC3 SR-1/STM1 MM
Clock source: internal (actual) internal (configured)
Rx S1: 0xf   Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
Rx power = 0.0223 mW, -16.5 dBm
Tx power = 0.0000 mW, -inf dBm
Tx laser current bias = 0.0 mA

Port SONET0/6/0/2:

Status: Down

Loopback: None

SECTION
  LOF = 0          LOS = 1          BIP(B1) = 0
LINE
  AIS = 0          RDI = 0          FEBE = 0          BIP(B2) = 0
PATH
  AIS = 0          RDI = 0          FEBE = 0          BIP(B3) = 0
  LOP = 0          NEWPTR = 0       PSE = 0          NSE = 0
  PLM = 0          TIM = 0          UNEQ = 0

Line delays trigger:      0 ms clear: 10000 ms
Path delays trigger:     0 ms,      0 ms (configured), clear: 10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: SLOS
Asserted Alarms: SLOS
Mask for Detected->Asserted: SLOF LAIS SF_BER SD_BER LRDI PLOP PAIS PRDI PUNEQ
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: B1-TCA B2-TCA B3-TCA

```

```

Alarm reporting enabled for: SLOS SLOF SF BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable C2_rx = 0x6D (109) C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0 S1S0(rx): 0x2 / Framing Derived

PATH TRACE BUFFER : UNSTABLE
  Remote hostname :
  Remote interface:
  Remote IP addr  :

APS
No APS Group Configured
Protect Channel 0  DISABLED
Rx(K1/K2) : 0x00/0x00
Tx(K1/K2) : 0x00/0x00
Remote Rx(K1/K2): 1/ Remote Tx(K1/K2): 1/

BER thresholds: SF = 10e-3 SD = 10e-6
TCA thresholds: B1 = 10e-6 B2 = 10e-6 B3 = 10e-6

Optics type: None
Clock source: internal (actual) line (configured)
Rx S1: 0xe Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Not Supported

Port SONET0/6/0/3:

Status: Up

Loopback: None

SECTION
  LOF = 0          LOS   = 0          BIP(B1) = 0
LINE
  AIS = 0          RDI   = 0          FEBE = 0          BIP(B2) = 0
PATH
  AIS = 0          RDI   = 0          FEBE = 0          BIP(B3) = 0
  LOP = 0          NEWPTR = 0        PSE  = 0          NSE   = 0
  PLM = 0          TIM   = 0          UNEQ = 0

Line delays trigger:      0 ms clear: 10000 ms
Path delays trigger:     0 ms,      0 ms (configured), clear: 10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: None
Asserted Alarms: None
Mask for Detected->Asserted: None
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: None
Alarm reporting enabled for: SLOS SLOF SF BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable C2_rx = 0x16 (22) C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0 S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : STABLE
  Remote hostname : PE21 C12406
  Remote interface: POS0/2/0/3
  Remote IP addr  : 10.121.4.21

APS
No APS Group Configured
Protect Channel 0  DISABLED
Rx(K1/K2) : 0x00/0x00

```

## show tech-support aps

```

Tx(K1/K2) : 0x00/0x00
Remote Rx(K1/K2): 01/0   Remote Tx(K1/K2): 01/0

BER thresholds: SF = 10e-3 SD = 10e-6
TCA thresholds: B1 = 10e-6 B2 = 10e-6 B3 = 10e-6

Optics type: OC3 SR-1/STM1 MM
Clock source: internal (actual) internal (configured)
Rx S1: 0xf Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
Rx power = 0.0206 mW, -16.9 dBm
Tx power = 0.0000 mW, -inf dBm
Tx laser current bias = 0.0 mA

Port SONET0/6/4/0:

Status: Down

Loopback: None

SECTION
  LOF = 0          LOS   = 1          BIP(B1) = 0
LINE
  AIS = 0          RDI   = 0          FEBE = 0          BIP(B2) = 0
PATH
  AIS = 0          RDI   = 0          FEBE = 0          BIP(B3) = 0
  LOP = 0          NEWPTR = 0        PSE = 0          NSE   = 0
  PLM = 0          TIM   = 0          UNEQ = 0

Line delays trigger:      0 ms clear: 10000 ms
Path delays trigger:     0 ms,      0 ms (configured), clear: 10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: SLOS
Asserted Alarms: SLOS
Mask for Detected->Asserted: SLOF LAIS SF_BER SD_BER LRDI PLOP PAIS PRDI PUNEQ
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: B1-TCA B2-TCA B3-TCA
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable C2_rx = 0xFF (255) C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0 S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : UNSTABLE
Remote hostname :
Remote interface:
Remote IP addr  :

APS
No APS Group Configured
Rx(K1/K2) : 0x00/0x00
Tx(K1/K2) : 0x00/0x00
Remote Rx(K1/K2): 1/   Remote Tx(K1/K2): 1/

BER thresholds: SF = 10e-3 SD = 10e-6
TCA thresholds: B1 = 10e-6 B2 = 10e-6 B3 = 10e-6

Optics type: None
Clock source: internal (actual) line (configured)
Rx S1: 0x0 Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
Not Supported

Port SONET0/6/4/1:

```

```

Status: Down

Loopback: None

SECTION
  LOF = 0          LOS    = 1          BIP(B1) = 0
LINE
  AIS = 0          RDI    = 0          FEBE = 0          BIP(B2) = 0
PATH
  AIS = 0          RDI    = 0          FEBE = 0          BIP(B3) = 0
  LOP = 0          NEWPTR = 0          PSE  = 0          NSE   = 0
  PLM = 0          TIM    = 0          UNEQ = 0

Line delays trigger:      0 ms clear: 10000 ms
Path delays trigger:     0 ms,      0 ms (configured), clear: 10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: SLOS
Asserted Alarms: SLOS
Mask for Detected->Asserted: SLOF LAIS SF_BER SD_BER LRDI PLOP PAIS PRDI PUNEQ
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: B1-TCA B2-TCA B3-TCA
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable C2_rx = 0xFF (255) C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0 S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : UNSTABLE
  Remote hostname :
  Remote interface:
  Remote IP addr  :

APS
No APS Group Configured
  Protect Channel 0  DISABLED
  Rx(K1/K2) : 0x00/0x00
  Tx(K1/K2) : 0x00/0x00
  Remote Rx(K1/K2): 1/ Remote Tx(K1/K2): 1/

BER thresholds: SF = 10e-3 SD = 10e-6
TCA thresholds: B1 = 10e-6 B2 = 10e-6 B3 = 10e-6

  Optics type: None
  Clock source: internal (actual) line (configured)
  Rx S1: 0x0 Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Not Supported

Port SONET0/6/4/2:

Status: Down

Loopback: None

SECTION
  LOF = 0          LOS    = 1          BIP(B1) = 0
LINE
  AIS = 0          RDI    = 0          FEBE = 0          BIP(B2) = 0
PATH
  AIS = 0          RDI    = 0          FEBE = 0          BIP(B3) = 0
  LOP = 0          NEWPTR = 0          PSE  = 0          NSE   = 0
  PLM = 0          TIM    = 0          UNEQ = 0

Line delays trigger:      0 ms clear: 10000 ms
Path delays trigger:     0 ms,      0 ms (configured), clear: 10000 ms
Last clearing of "show controllers SONET" counters never

```

```

Detected Alarms: SLOS
Asserted Alarms: SLOS
Mask for Detected->Asserted: SLOF LAIS SF_BER SD_BER LRDI PLOP PAIS PRDI PUNEQ
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: B1-TCA B2-TCA B3-TCA
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0xEF (239)   C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0   S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : UNSTABLE
  Remote hostname :
  Remote interface:
  Remote IP addr  :

APS
No APS Group Configured
Protect Channel 0   DISABLED
Rx(K1/K2) : 0x00/0x00
Tx(K1/K2) : 0x00/0x00
Remote Rx(K1/K2): 1/   Remote Tx(K1/K2): 1/

BER thresholds: SF = 10e-3   SD = 10e-6
TCA thresholds: B1 = 10e-6   B2 = 10e-6   B3 = 10e-6

  Optics type: None
  Clock source: internal (actual) line (configured)
  Rx S1: 0x0   Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Not Supported

Port SONET0/6/4/3:

Status: Down

Loopback: None

SECTION
  LOF = 0           LOS   = 1           BIP(B1) = 0
LINE
  AIS = 0           RDI   = 0           FEBE = 0           BIP(B2) = 0
PATH
  AIS = 0           RDI   = 0           FEBE = 0           BIP(B3) = 0
  LOP = 0           NEWPTR = 0           PSE  = 0           NSE   = 0
  PLM = 0           TIM   = 0           UNEQ = 0

Line delays trigger:      0 ms clear: 10000 ms
Path delays trigger:     0 ms,      0 ms (configured), clear: 10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: SLOS
Asserted Alarms: SLOS
Mask for Detected->Asserted: SLOF LAIS SF_BER SD_BER LRDI PLOP PAIS PRDI PUNEQ
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: B1-TCA B2-TCA B3-TCA
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0xFF (255)   C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0   S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : UNSTABLE
  Remote hostname :
  Remote interface:

```

```

Remote IP addr  :

APS
No APS Group Configured
Protect Channel 0  DISABLED
Rx(K1/K2) : 0x00/0x00
Tx(K1/K2) : 0x00/0x00
Remote Rx(K1/K2): 1/      Remote Tx(K1/K2): 1/

BER thresholds: SF = 10e-3 SD = 10e-6
TCA thresholds: B1 = 10e-6 B2 = 10e-6 B3 = 10e-6

Optics type: None
Clock source: internal (actual) line (configured)
Rx S1: 0x0 Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
Not Supported

Port SONET0/6/4/4:

Status: Up

Loopback: None

SECTION
  LOF = 0      LOS = 0      BIP(B1) = 0
LINE
  AIS = 0      RDI = 0      FEBE = 0      BIP(B2) = 0
PATH
  AIS = 0      RDI = 0      FEBE = 0      BIP(B3) = 0
  LOP = 0      NEWPTR = 0    PSE = 0      NSE = 0
  PLM = 0      TIM = 0      UNEQ = 0

Line delays trigger:      0 ms clear: 10000 ms
Path delays trigger:      0 ms,      0 ms (configured), clear: 10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: None
Asserted Alarms: None
Mask for Detected->Asserted: None
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: None
Alarm reporting enabled for: SLOS SLOF SF BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable C2_rx = 0x16 (22) C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0 S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : STABLE
Remote hostname : P4_C12810
Remote interface: POS0/3
Remote IP addr  : 10.14.4.4

APS
No APS Group Configured
Protect Channel 0  DISABLED
Rx(K1/K2) : 0x00/0x00
Tx(K1/K2) : 0x00/0x00
Remote Rx(K1/K2): F1/F      Remote Tx(K1/K2): 00/0

BER thresholds: SF = 10e-3 SD = 10e-6
TCA thresholds: B1 = 10e-6 B2 = 10e-6 B3 = 10e-6

Optics type: OC12 SR-1/STM4 MM
Clock source: internal (actual) internal (configured)
Rx S1: 0xf Tx S1: 0xf

```

```

Optical Power Monitoring (accuracy: +/- 1dB)
  Rx power = 0.0184 mW, -17.4 dBm
  Tx power = 0.0000 mW, -inf dBm
  Tx laser current bias = 0.0 mA

Port SONET0/6/4/5:

Status: Up

Loopback: None

SECTION
  LOF = 0          LOS   = 1          BIP(B1) = 0
LINE
  AIS = 0          RDI   = 0          FEBE = 0          BIP(B2) = 0
PATH
  AIS = 0          RDI   = 0          FEBE = 0          BIP(B3) = 0
  LOP = 0          NEWPTR = 0        PSE = 0          NSE   = 0
  PLM = 0          TIM   = 0          UNEQ = 0

Line delays trigger:      0 ms clear: 10000 ms
Path delays trigger:     0 ms,      0 ms (configured), clear: 10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: None
Asserted Alarms: None
Mask for Detected->Asserted: None
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: None
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0x16 (22)   C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0   S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : STABLE
  Remote hostname : P2_CRS-8
  Remote interface: POS0/6/4/5
  Remote IP addr  : 10.12.4.2

APS
No APS Group Configured
Protect Channel 0   DISABLED
Rx(K1/K2) : 0x00/0x00
Tx(K1/K2) : 0x00/0x00
Remote Rx(K1/K2): 01/0   Remote Tx(K1/K2): 01/0

BER thresholds: SF = 10e-3   SD = 10e-6
TCA thresholds: B1 = 10e-6   B2 = 10e-6   B3 = 10e-6

Optics type: OC12 SR-1/STM4 MM
Clock source: internal (actual) internal (configured)
Rx S1: 0xf   Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Rx power = 0.0193 mW, -17.1 dBm
  Tx power = 0.0000 mW, -inf dBm
  Tx laser current bias = 0.0 mA

Port SONET0/6/4/6:

Status: Up

Loopback: None

SECTION
  LOF = 1          LOS   = 0          BIP(B1) = 0
LINE
  AIS = 0          RDI   = 0          FEBE = 0          BIP(B2) = 0

```

```

PATH
  AIS = 0          RDI = 0          FEBE = 0          BIP(B3) = 0
  LOP = 0          NEWPTR = 0       PSE = 0          NSE = 0
  PLM = 0          TIM = 0          UNEQ = 0

Line delays trigger:      0 ms clear: 10000 ms
Path delays trigger:     0 ms,      0 ms (configured), clear: 10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: None
Asserted Alarms: None
Mask for Detected->Asserted: None
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: None
Alarm reporting enabled for: SLOS SLOF SF_BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable C2_rx = 0x16 (22) C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0 S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : STABLE
  Remote hostname : P3_C12008
  Remote interface: POS5/2
  Remote IP addr  : 10.13.4.3

APS
No APS Group Configured
  Protect Channel 0  DISABLED
  Rx(K1/K2) : 0x00/0x00
  Tx(K1/K2) : 0x00/0x00
  Remote Rx(K1/K2): 00/0 Remote Tx(K1/K2): 00/0

BER thresholds: SF = 10e-3 SD = 10e-6
TCA thresholds: B1 = 10e-6 B2 = 10e-6 B3 = 10e-6

  Optics type: OC12 SR-1/STM4 MM
  Clock source: internal (actual) internal (configured)
  Rx S1: 0xf Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
  Rx power = 0.0142 mW, -18.5 dBm
  Tx power = 0.0000 mW, -inf dBm
  Tx laser current bias = 0.0 mA

Port SONET0/6/4/7:

Status: Down

Loopback: None

SECTION
  LOF = 0          LOS = 1          BIP(B1) = 0
LINE
  AIS = 0          RDI = 0          FEBE = 0          BIP(B2) = 0
PATH
  AIS = 0          RDI = 0          FEBE = 0          BIP(B3) = 0
  LOP = 0          NEWPTR = 0       PSE = 0          NSE = 0
  PLM = 0          TIM = 0          UNEQ = 0

Line delays trigger:      0 ms clear: 10000 ms
Path delays trigger:     0 ms,      0 ms (configured), clear: 10000 ms
Last clearing of "show controllers SONET" counters never

Detected Alarms: SLOS
Asserted Alarms: SLOS
Mask for Detected->Asserted: SLOF LAIS SF_BER SD_BER LRDI PLOP PAIS PRDI PUNEQ
Detected Alerts: None
Reported Alerts: None
Mask for Detected->Reported: B1-TCA B2-TCA B3-TCA

```

## show tech-support aps

```
Alarm reporting enabled for: SLOS SLOF SF BER PLOP
Alert reporting enabled for: B1-TCA B2-TCA B3-TCA

Framing: SONET
SPE Scrambling: Enabled
C2 State: Stable   C2_rx = 0xF7 (247)   C2_tx = 0x16 (22) / Scrambling Derived
S1S0(tx): 0x0   S1S0(rx): 0x0 / Framing Derived

PATH TRACE BUFFER : UNSTABLE
Remote hostname :
Remote interface:
Remote IP addr  :

APS
No APS Group Configured
Protect Channel 0  DISABLED
Rx(K1/K2) : 0x00/0x00
Tx(K1/K2) : 0x00/0x00
Remote Rx(K1/K2): 1/   Remote Tx(K1/K2): 1/

BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6  B3 = 10e-6

Optics type: None
Clock source: internal (actual) internal (configured)
Rx S1: 0x0 Tx S1: 0xf

Optical Power Monitoring (accuracy: +/- 1dB)
Not Supported
```

```
-----
show tech-support aps complete
-----
```

# show tech-support asic

To save a snapshot of ASIC information specific to ASIC debugging, use the **show tech-support asic** command in administration EXEC mode.

```
show tech-support asic {name| all| cpuctrl| fabricq| ingressq| pse} {directory path| instance instance
directory path} [location node-id]
```

## Syntax Description

<i>name</i>	ASIC name.
<b>all</b>	Specifies all ASICs.
<b>cpuctrl</b>	Specifies CPU controller ASICs.
<b>fabricq</b>	Specifies fabric queue ASICs.
<b>ingressq</b>	Specifies ingress queue ASICs.
<b>pse</b>	Specifies power sourcing equipment ASICs.
<b>directory</b>	Directory to save the ASIC snapshot in.
<i>path</i>	Path of the directory.
<b>instance</b>	Specifies an ASIC instance.
<i>instance</i>	ASIC instance. Range is 0 to 8.
<b>location</b>	(Optional) Specifies a node.
<i>node-id</i>	(Optional) Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Default

No default behavior or values

## Command Modes

Administration EXEC

## Command History

Release	Modification
Release 3.4.0	This command was introduced.

**Usage Guidelines**

Use the **show tech-support asic** command to save an ASIC snapshot. This command generates ASIC information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

**Note**

This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support ASIC** command:

- **show hfr**
- **show controllers ingressq statistics location**
- **show controllers ingressq block fqm queues location**
- **show asic-errors ingressq 0 all location**
- **show controllers ingressq block brm location**
- **show controllers ingressq block brm aggrbarr location**
- **show controllers ingressq fabric detail location**
- **show controllers ingressq fabric links location**
- **show controllers ingressq fabric pla location**
- **show controllers ingressq eio links all location**
- **show controllers ingressq interfaces all location**
- **show controllers ingressq vports all location**
- **show controllers ingressq queues all location**
- **show controllers ingressq block ssm bpmem 0 location**
- **show controllers asic sprayer in *nn* location | exclude *nn***
- **show controllers fabricq fabric-backpressure location**
- **show controllers fabricq link-info all location**
- **show controllers cpuctrl clients cdma ingressq active location**
- **show controllers cpuctrl clients cdma ingressq detail location**
- **show asic-errors pse 0 all location**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

Task ID	Operations
admin	read

**Examples**

The following example shows some of the **show tech-support asic** command output:

```
RP/0/0/CPU0:router(admin)# show tech-support asic all inst 0 dir net/node0_RP0_CPU0/  
harddisk:/asic_snapshots/
```

```
results in following files being created with contents..  
# pwd  
/net/node0_RP0_CPU0/harddisk:/asic_snapshots  
# ls -lrt  
total 980  
.  
.  
.
```

## show tech-support bcdl

To automatically run **show** commands that display information specific to bulk content downloader (BCDL) debugging, use the **show tech-support bcdl** command in EXEC mode.

```
show tech-support bcdl [ bcdl-group ] {terminal [page] | file send-to [background] [compressed | uncompressed] }
```

### Syntax Description

<i>bcdl-group</i>	(Optional) Name of the BCDL group.
<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.

---

**uncompressed** (Optional) Displays the command output with no compression.

---

**Command Default** The command output is not compressed.

**Command Modes** EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

---

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.



**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support bcdl** command to run **show** commands that display information specific to BCDL debugging. The BCDL is used to pass routing information from the Routing Information Base (RIB) to the linecards for Forwarding Information Base (FIB) processing. BCDL also allows Multiprotocol Label Switching (MPLS) to send label information to the FIB and allows Local Packet Transport Services (LPTS) to send information to the linecard processes.



**Note**

This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support bcdl** command:

- **show bcdl**
- **show bcdl consumers**
- **show bcdl tables**
- **show process bcdl\_agent**
- **show bcdl trace location all**

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

<b>Task ID</b>	<b>Operations</b>
basic-services or cisco-support	read
sysmgr	read

# show tech-support bundles

To automatically run **show** commands that display information specific to bundle debugging, use the **show tech-support bundles** command in EXEC mode.

**show tech-support bundles** [*interface type interface-path-id*] [**file sent-to**] [**background**] [**compressed**|**uncompressed**] [**show-only**] [**trace-only**] [**vrf vrf-name**] [**location node-id**| **all**]

## Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>sent-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>compactflasha:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>interface</b>	(Optional) Collects information about a specific interface.
<i>type</i>	Interface type. For more information, use the question mark (?) online help function.

<i>interface-path-id</i>	Physical interface or virtual interface.  <b>Note</b> Use the <b>show interfaces</b> command to see a list of all interfaces currently configured on the router. For more information about the syntax for the router, use the question mark ( ? ) online help function.
<b>show-only</b>	(Optional) Collects only show command information.
<b>terminal</b>	Displays the command output on the terminal.
<b>trace-only</b>	(Optional) Collects only trace information.
<b>vrf</b>	(Optional) Specifies a VPN routing and forwarding (VRF) instance.
<i>vrf-name</i>	(Optional) Name of VRF.
<b>location</b>	(Optional) Specifies a node.
<i>node-id</i>	(Optional). Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>all</b>	(Optional) Specifies all locations.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.

**Command Modes**

EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

---

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

---

Use the **show tech-support bundles** command for 802.3ad link bundles. This command is used to locate any issues related to bundling.

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

---

<b>Task ID</b>	<b>Operations</b>
cisco-support	read

---

## show tech-support cef

To automatically run **show** commands that display information specific to Cisco Express Forwarding (CEF) debugging, use the **show tech-support cef** command in EXEC mode.

```
show tech-support cef [vrf vrf-name [ipv4 ipv6 mpls] [A.B.C.D | A.B.C.D/length] detail | brief] interface
| rack] [compress] [location node-id] {terminal [page] | file send-to [background] [compressed
| uncompressed]}
```

### Syntax Description

<b>vrf</b>	(Optional) Specifies a VPN routing and forwarding (VRF) instance.
<i>vrf-name</i>	(Optional) Name of a VRF.
<b>ipv4</b>	(Optional) Specifies IPv4 CEF information.
<b>ipv6</b>	(Optional) Specifies IPv6 CEF information.
<b>mpls</b>	(Optional) Specifies Multiprotocol Label Switching CEF information.
<b>A.B.C.D</b>	(Optional) Specifies IPv4 Prefix entries.
<b>A.B.C.D/length</b>	(Optional) Specifies IPv4 Prefix mask.
<b>detail</b>	(Optional) Specifies detailed CEF debugging information.
<b>brief</b>	(Optional) Specifies a brief CEF debugging information.
<b>file</b>	(Optional) Specifies that the command output is saved to a specified file.

<i>sent-to</i>	(Optional) Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>interface</b>	(Optional) Specifies CEF interface status and configuration.
<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>rack</b>	(Optional) Specifies a list of racks.
<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.

**Command Default**

IPv4 is the default.

The command output is not compressed.

**Command Modes**

EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support cef** command to run **show** commands that display information specific to CEF debugging. This command is used to locate any issues related to the Forwarding Information Base (FIB) which is more commonly referred to as Cisco Express Forwarding (CEF). This command generates CEF debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support cef** command:

- show version
- show running
- **show route {ipv4 | ipv6} unicast**
- **show proc blocked**
- **show cef {ipv4 | ipv6 | mpls} exceptions**
- **show cef {ipv4 | ipv6 | mpls} drop**
- **show ipv4 interface brief**
- **show cef {ipv4 | ipv6} summary**
- **show cef {ipv4 | ipv6 | mpls} interface**
- show cef ipv4 non-recursive

- **show cef {ipv4 | ipv6}**
- **show cef {ipv4 | ipv6 | mpls} adjacency**
- **show mpls forwarding** (if the **mpls** keyword is specified)

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

<b>Task ID</b>	<b>Operations</b>
basic-services or cisco-support	read
cef	read

## show tech-support cfgmgr

To automatically run **show** commands that display information to gather information about the configuration manager, use the **show tech-support cfgmgr** command in EXEC mode.

**show tech-support cfgmgr** [*file* *send-to* [**background**] [**compressed**] **uncompressed**] **terminal** [*page*]

### Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>terminal</b>	Specifies that the command output is displayed on the terminal.

---

<b>page</b>	(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl+C</b> keys to stop the command output.
-------------	--

---

**Command Modes**

EXEC

**Command History**


---

Release	Modification
Release 3.2	This command was introduced.

---

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support cfgmgr** command to gather information about the configuration manager. This command is used to locate any issues in regards to executing configuration commands or problems.

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:

[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**


---

Task ID	Operations
cisco-support	read

---

## show tech-support chdlc

To automatically run **show** commands that display debugging information related to Cisco high-level data link control (CHDLC) protocol, use the **show tech-support chdlc** command in the EXEC mode.

**show tech-support chdlc file** *send-to* [**interface**] **slow** [**location** *node-id*] [**rack**]

### Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>interface</b>	(Optional) Displays information about a specific interface.
<b>slow</b>	(Optional) Displays the debugging output of chdlc.
<b>location</b>	(Optional) Specifies a node.
<i>node-id</i>	(Optional) Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>rack</b>	(Optional) Displays a list of racks.

### Command Default

None.

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.9.0	This command was introduced.

### Usage Guideline

#### Tip

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support chdlc** command to run **show** commands that display CHDLC debugging information. This command generates information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.



#### Note

This command is not required during normal use of the router.

Task ID	Task ID	Operations
	cisco-support	read

### Examples

The following example shows how to run the **show tech-support chdlc** command on the router:

```
RP/0/0/CPU0:router# show tech-support chdlc interface gigabitEthernet 0/6/5/0
```

## show tech-support control-ethernet

To automatically run **show** commands that display information specific to control Ethernet debugging, use the **show tech-support control-ethernet** command in Administration EXEC mode.

**show tech-support control-ethernet** [**fast**] [**location** *node-id*] {**terminal** [**page**] | **file** *send-to* [**background**] [**compressed**] | **uncompressed**}}

### Syntax Description

<b>fast</b>	(Optional) Collects the output simultaneously from multiple line cards in a multi-chassis router.
<b>location</b>	(Optional) Specifies a node.
<i>node-id</i>	(Optional) Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	Specifies that the command output is saved to a specified file.

---

*send-to* Name of the file. The following valid options are listed:

- *filename*
- **bootflash:** *filename*
- **compactflash:** *filename*
- **disk0:** *filename*
- **disk1:** *filename*
- **flash:** *filename*
- **ftp:** *filename*
- **harddisk:** *filename*
- **harddiska:** *filename*
- **nvr:** *filename*
- **rcp:** *filename*
- **slot0:** *filename*
- **slot1:** *filename*
- **tftp:** *filename*

---

<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.

---

**Command Default** The command output is not compressed.

**Command Modes** Administration EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

---

### Usage Guideline

**Tip** This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

---

Use the **show tech-support control-ethernet** command to run **show** commands that display information specific to control Ethernet debugging. This command is used to display information specific to Ethernet interface issues. This command generates control Ethernet information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.



**Note** This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support control-ethernet** command:

- **show version**
- **show controller fabric connectivity all**
- **show controller switch 0 ports** *node-id*
- **show controller switch 1 ports** *node-id*
- **show controller switch 0 statistics** *node-id*
- **show controller switch 1 statistics** *node-id*
- **show controller switch uddl** *node-id*
- **show controller switch stp** *node-id*
- **show controller switch inter-rack ports all** *node-id*
- **show controller switch inter-rack statistics brief all** *node-id*
- **show controller switch inter-rack statistics detail all** *node-id*
- **show controller switch inter-rack uddl all** *node-id*
- **show controller switch inter-rack stp all** *node-id*
- **show controller backplane ethernet detail** *node-id*
- **show controller backplane ethernet trace** *node-id*

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

The **show tech-support control-ethernet** command also generates log files which are not listed. See the command output for log file information.

## Task ID

Task ID	Operations
admin	read

**Examples**

The following example shows a truncated version of the **show tech-support control-ethernet** command output:

```
RP/0/0/CPU0:router(admin)#show tech-support control-ethernet terminal page
```

```
Number of nodes 13
```

```
Gathering required commands for show tech control-ethernet
```

```
Finding available nodes in the system
```

```
Node - 0/1/CPU0
```

```
Node - 0/1/SP
```

```
Node - 0/4/CPU0
```

```
Node - 0/4/CPU1
```

```
Node - 0/4/SP
```

```
Node - 0/6/CPU0
```

```
Node - 0/6/SP
```

```
Node - 0/
```

```
0
```

```
/CPU0
```

```
Node - 0/
```

```
0
```

```
/CPU0
```

```
Node - 0/SM0/SP
```

```
Node - 0/SM1/SP
```

```
Node - 0/SM2/SP
```

```
Node - 0/SM3/SP
```

```
-----  
show tech-support control-ethernet  
-----
```

```
----- show version -----
```

```
Cisco IOS XR Software, Version 3.9.0.20I[DT_IMAGE]
```

```
Copyright (c) 2009 by Cisco Systems, Inc.
```

```
ROM: System Bootstrap, Version 1.51(20080807:092259) [CRS-1 ROMMON],
```

```
P2_CRS-8 uptime is 1 day, 18 hours, 10 minutes
```

```
System image file is "bootflash:disk0/hfr-os-mpi-3.8.0.20I/mbihfr-rp.vm"
```

```
cisco CRS-8/S (7457) processor with 4194304K bytes of memory.
```

```
7457 processor at 1197Mhz, Revision 1.2
```

```
4 Management Ethernet
```

```
16 GigabitEthernet
```

```
20 SONET/SDH
```

```
20 Packet over SONET/SDH
```

```
1019k bytes of non-volatile configuration memory.
```

```
1000592k bytes of disk0: (Sector size 512 bytes).
```

```
1000640k bytes of disk1: (Sector size 512 bytes).

Boot device on node 0/1/SP is bootflash:
Package active on node 0/1/SP:
hfr-pagent, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-pagent-3.8.0.20I
Built on Wed Oct 29 17:24:33 DST 2008
By iox13.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-fpd, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-fpd-3.8.0.20I
Built on Wed Oct 29 17:02:19 DST 2008
By iox3.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-diags, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-diags-3.8.0.20I
Built on Wed Oct 29 17:02:01 DST 2008
By iox3.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-admin, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-admin-3.8.0.20I
Built on Wed Oct 29 16:08:13 DST 2008
By iox30.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-base, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-base-3.8.0.20I
Built on Wed Oct 29 16:07:35 DST 2008
By iox30.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-os-mpi, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-os-mpi-3.8.0.20I
Built on Wed Oct 29 15:45:48 DST 2008
By iox30.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

Configuration register on node 0/1/CPU0 is 0x102
Boot device on node 0/1/CPU0 is mem:
Package active on node 0/1/CPU0:
hfr-services, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-services-3.8.0I
Built on Wed Oct 29 17:03:08 DST 2008
By iox3.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-pagent, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-pagent-3.8.0.20I
Built on Wed Oct 29 17:24:33 DST 2008
By iox13.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-fpd, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-fpd-3.8.0.20I
Built on Wed Oct 29 17:02:19 DST 2008
By iox3.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-diags, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-diags-3.8.0.20I
Built on Wed Oct 29 17:02:01 DST 2008
By iox3.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-mcast, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-mcast-3.8.0.20I
Built on Wed Oct 29 18:18:37 DST 2008
By iox22.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-mpis, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-mpis-3.8.0.20I
Built on Wed Oct 29 18:18:25 DST 2008
By iox22.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-1c, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-1c-3.8.0.20I
Built on Wed Oct 29 16:18:36 DST 2008
By iox30.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

hfr-fwdg, V 3.8.0.20I[DT_IMAGE], Cisco Systems, at disk0:hfr-fwdg-3.8.0.20I
Built on Wed Oct 29 16:13:27 DST 2008
By iox30.cisco.com in /auto/ioxbuild6/production/3.8.0.20I.DT_IMAGE/hfr/work0

--More--
```

## show tech-support dsc

To automatically run **show** commands that display information specific to designated shelf controller (DSC) debugging, use the **show tech-support dsc** command in Administration EXEC mode.

```
show tech-support dsc [location node-id] {terminal [page]| file send-to [background] [compressed|uncompressed]}
```

### Syntax Description

<b>location</b>	(Optional) Specifies a node.
<i>node-id</i>	(Optional) Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following are valid options: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.

<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.

**Command Default** The command output is not compressed.

**Command Modes** Administration EXEC

<b>Release</b>	<b>Modification</b>
Release 3.4.0	This command was introduced.

### Usage Guideline

**Tip** This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support dsc** command to run **show** commands that display information specific to DSC debugging. This command generates DSC information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.



**Note** This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support dsc** command:

- **show dsc all**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

<b>Task ID</b>	<b>Operations</b>
admin	read

**Examples** The following example shows some of the **show tech-support dsc** command output:

```
RP/0/0/CPU0:router(admin)#show tech-support dsc terminal page
```

```
-----  
show tech-support dsc for node node0_RP0_CPU0 from node node0_RP0_CPU0  
-----
```

```
-----  
Displaying DSC information  
-----
```

```
----- Displaying DSC attach_process on this node -----
```

```
----- run attach_process -p 110638 -i 1 -S -----
```

```
Attaching to process pid = 110638 (pkg/bin/dsc)  
No tid specified, following all threads
```

```
Iteration 1 of 1  
-----
```

```
Current process = "pkg/bin/dsc", PID = 110638 TID = 1
```

```
trace_back: #0 0xfc177518 [MsgReceivev]  
trace_back: #1 0xfc161354 [msg_receivev]  
trace_back: #2 0xfc161160 [msg_receive]  
trace_back: #3 0xfc16479c [event_dispatch]  
trace_back: #4 0xfc164958 [event_block]  
trace_back: #5 0x482005e8 [<N/A>]  
trace_back: #6 0x482012cc [<N/A>]
```

```
ENDOFSTACKTRACE
```

```
Current process = "pkg/bin/dsc", PID = 110638 TID = 2
```

```
trace_back: #0 0xfc177518 [MsgReceivev]  
trace_back: #1 0xfc161354 [msg_receivev]  
trace_back: #2 0xfc161160 [msg_receive]  
trace_back: #3 0xfc16479c [event_dispatch]  
trace_back: #4 0xfc164958 [event_block]  
trace_back: #5 0xfc6368d4 [chk_evm_thread]
```

```
ENDOFSTACKTRACE
```

```
Current process = "pkg/bin/dsc", PID = 110638 TID = 4
```

```
trace_back: #0 0xfc177518 [MsgReceivev]  
trace_back: #1 0xfc161354 [msg_receivev]  
trace_back: #2 0xfc161160 [msg_receive]  
trace_back: #3 0xfc16479c [event_dispatch]  
trace_back: #4 0xfc164958 [event_block]  
trace_back: #5 0x48200f34 [<N/A>]
```

```
ENDOFSTACKTRACE
```

```
Current process = "pkg/bin/dsc", PID = 110638 TID = 5
```

```
trace_back: #0 0xfc177518 [MsgReceivev]  
trace_back: #1 0xfc161354 [msg_receivev]  
trace_back: #2 0xfc161160 [msg_receive]  
trace_back: #3 0xfc16479c [event_dispatch]  
trace_back: #4 0xfc164958 [event_block]
```

## show tech-support dsc

```
trace_back: #5 0x48200ddc [<N/A>]
```

```
ENDOFSTACKTRACE
```

```
Current process = "pkg/bin/dsc", PID = 110638 TID = 6
```

```
trace_back: #0 0xfc177518 [MsgReceivev]
trace_back: #1 0xfc161354 [msg_receivev]
trace_back: #2 0xfc161160 [msg_receive]
trace_back: #3 0xfc16479c [event_dispatch]
trace_back: #4 0xfc164958 [event_block]
trace_back: #5 0x48200528 [<N/A>]
```

```
ENDOFSTACKTRACE
```

```
----- Displaying show dsc all -----
```

```
----- run dsc_show_table -a -----
```

NODE	ROLE	PRIORITY	TBEACON	PRESENT	MIGRATION
0/RP0/CPU0	DSC	DEFAULT	300	YES	ENABLED
0/RP1/CPU0	BACKUP	DEFAULT	300	YES	ENABLED
0/4/CPU0	NON-DSC	65	300	YES	ENABLED
0/4/CPU1	NON-DSC	66	300	YES	ENABLED

```
----- Displaying Rack SerialIDs -----
```

```
----- run dsc_show_table -s -----
```

NODE	SERIAL ID
0/RP0/CPU0	TBA09370035
0/RP1/CPU0	TBA09370035
0/4/CPU0	TBA09370035
0/4/CPU1	TBA09370035

```
----- Displaying DSC process on all nodes -----
```

```
----- run sysmgr_show -o -A -p dsc -n 513 -----
```

```
Job Id: 155
PID: 110638
Executable path: /disk0/hfr-admin-3.8.0/bin/dsc
Instance #: 1
Version ID: 00.00.0000
Respawn: ON
Respawn count: 1
Max. spawns per minute: 12
Last started: Fri Mar 16 14:56:35 2007
Process state: Run
Package state: Normal
core: COPY
Max. core: 0
Level: 40
Mandatory: ON
MaintModeProc: ON
startup_path: /pkg/startup/dsc.startup
```

```
Ready: 4.382s
Process cpu time: 891.318 user, 1328.561 kernel, 2219.879 total
JID  TID  Stack pri state      TimeInState      HR:MM:SS:MSEC NAME
155  1    52K  10  Receive      0:00:52:0856     0:00:00:0176 dsc
155  2    52K  10  Receive      326:49:44:0414   0:00:00:0001 dsc
155  4    52K  10  Receive      0:00:00:0083     0:00:01:0127 dsc
155  5    52K  10  Receive      0:00:00:0643     0:00:00:0019 dsc
155  6    52K  55  Receive      0:00:00:0060     0:14:49:0966 dsc
.
.
.
```

# show tech-support ethernet

To automatically run **show** commands that display information specific to ethernet debugging, use the **show tech-support ethernet** command in EXEC mode.

**show tech-support** [**file** *send-to*] [**background**] [**compressed| uncompressed**] [**interface** *interface-type interface-instance*] [**location** *node-id*] [**rack**]

## Syntax Description

<b>file</b>	(Optional) Specifies that the command output is saved to a specified file.
<i>sent-to</i>	(Optional) Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>interface</b>	(Optional) Collects the status and configuration information about a specific interface.
<i>interface-type</i>	Identifies a physical interface or a virtual interface. <p><b>Note</b> Use the <b>show interfaces</b> command to see a list of all possible interfaces currently configured on the router.</p>
<i>interface-instance</i>	Specifies the interface instance. The argument <i>interface-instance</i> is expressed in the rack/slot/module notation.
<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>rack</b>	(Optional) Specifies a list of racks.

**Command Default**

IPv4 is the default.  
The command output is compressed.

**Command Modes**

EXEC

**Command History**

Release	Modification
Release 3.8.0	This command was introduced.

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support ethernet** command to run **show** commands that display information specific to VLAN and ethernet infrastructure debugging. This command generates ethernet debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support ethernet** command:

- **show version**
- **show running**
- **show route {ipv4 | ipv6} unicast**
- **show proc blocked**
- **show ethernet {ipv4 | ipv6 | mpls} exceptions**
- **show ethernet {ipv4 | ipv6 | mpls} drop**
- **show ipv4 interface brief**
- **show mpls forwarding** (if the **mpls** keyword is specified)

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

<b>Task ID</b>	<b>Operations</b>
cisco-support	read

# show tech-support fabric

To automatically run **show** commands that display information specific to fabric debugging, use the **show tech-support fabric** command in Administration EXEC mode.

```
show tech-support fabric {fabric-snapshot| multicast [brief| detail]} summary| traffic [brief| detail]}
[location node-id [include-fabric-cards] [include-rp]] [email] page| file send-to]
```

## Syntax Description

<b>fabric-snapshot</b>	Runs the fabric snapshot script which generates comprehensive data on the instantaneous state of the fabric.
<b>multicast</b>	Specifies fabric multicast information.
<b>brief</b>	(Optional) Displays brief information.
<b>detail</b>	(Optional) Displays detailed information.
<b>summary</b>	Specifies fabric summary information.
<b>traffic</b>	Specifies fabric traffic information.
<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>include-fabric-cards</b>	(Optional) Specifies fabric card information in addition to the fabric information. This option is available when the <b>fabric-snapshot</b> keyword is used.
<b>include-rp</b>	(Optional) Specifies route processor information in addition to the fabric information. This option is available when the <b>fabric-snapshot</b> keyword is used.
<b>email</b>	(Optional) Specifies that the command output is sent through email. The output is copied to /disk0:/fabric_multicast.log.  <b>Note</b> To use the <b>email</b> keyword, you must have the SMTP server and domain name and the ability to connect a TCP socket to the specified SMTP server. The <b>domain ipv4 host</b> <i>host-name v4address1</i> command must be configured to use the server lookup.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	(Optional) Specifies that the command output is saved to a specified file.

---

*sent-to* (Optional) Name of the file. The following valid options are listed:

- *filename*
  - **bootflash:** *filename*
  - **compactflash:** *filename*
  - **disk0:** *filename*
  - **disk1:** *filename*
  - **flash:** *filename*
  - **ftp:** *filename*
  - **harddisk:** *filename*
  - **harddiska:** *filename*
  - **nvr:** *filename*
  - **rcp:** *filename*
  - **slot0:** *filename*
  - **slot1:** *filename*
  - **tftp:** *filename*
- 

**Command Default**

The command output is not compressed.

**Command Modes**

Administration EXEC

**Command History**

Release	Modification
Release 3.3.0	This command was introduced.

---

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support fabric** command to run **show** commands that display information specific to fabric debugging. This command generates fabric information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support fabric multicast** command:

- **show controllers fabric fgid stat all detail**
- **show controllers fabric fgid info**
- **show process fgid\_allocator**
- **show process fgid\_aggregator**
- **show process fgid\_server**
- **show process fgid\_allocator**

The following **show** commands run automatically when you run the **show tech-support fabric traffic** command:

- **show controllers fabric plane all detail**
- **show controllers fabric plane all stat brief**
- **show controllers fabric plane all stat detail**
- **show controllers fabric link port**
- **show controller fabricq stat**
- **show controllers fabricq queues**
- **show controllers fabricq eio links all**
- **show controller ingressq stat**
- **show controller ingressq queue all**
- **show controller ingressq fabric pla**
- **show control ingressq block ssm bpmem 0**
- **show controllers ingressq block fqm queue**
- **show controllers ingressq vports all**
- **show controllers ingressq interfaces all**
- **show controllers ingressq eio links all**

- **show controller fia rxslice all uq all channel all**
- **show controllers cpuctrl devices ingressq pdma queue all act**
- **show controllers cpuctrl devices egressq pdma queue all act**
- **show controllers cpuctrl devices fabricq pdma queue all act**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

<b>Task ID</b>	<b>Operations</b>
admin	read

## show tech-support gsp

To automatically run **show** commands that display information specific to Gigabit Switch Platform (GSP) debugging, use the **show tech-support gsp** command in EXEC mode.

```
show tech-support gsp [client| group| rack] [location node-id] {terminal [page]| file send-to [background]
[compressed| uncompressed]}
```

### Syntax Description

<b>client</b>	(Optional) Displays the client tech-support information.
<b>group</b>	(Optional) Displays the group tech-support information.
<b>rack</b>	(Optional) Displays the number of racks
<b>location</b>	(Optional) Specifies a node.
<i>node-id</i>	(Optional) Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	Specifies that the command output is saved to a specified file.

---

*sent-to* Name of the file. The following valid options are listed:

- *filename*
- **bootflash:** *filename*
- **compactflash:** *filename*
- **disk0:** *filename*
- **disk1:** *filename*
- **flash:** *filename*
- **ftp:** *filename*
- **harddisk:** *filename*
- **harddiska:** *filename*
- **nvr:** *filename*
- **rcp:** *filename*
- **slot0:** *filename*
- **slot1:** *filename*
- **tftp:** *filename*

---

<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.

---

**Command Default** The command output is not compressed.

**Command Modes** EXEC

**Command History**

---

Release	Modification
Release 3.2	This command was introduced.

---

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support gsp** command to run **show** commands that display information specific to GSP debugging. GSP is a common IPC utilized in Cisco IOS XR software to communicate between nodes. This command would be used to determine if there are any issues with GSP communication between nodes. This command generates GSP debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support gsp** command:

- **show gsp group addresses**
- **show gsp group admin addresses**
- **show gsp group lr-control addresses**
- **show gsp group gid 0**
- **show gsp group gid 1000**
- **show gsp group gid 2000**
- **show gsp memory**
- **show gsp stats client**
- **show gsp stats server jid 0**
- **show gsp trace server bootstrap location all**
- **show gsp trace server timeout slow location all**
- **show gsp trace server timeout fast location all**
- **show gsp trace server limp fast location all**
- **show gsp trace server limp slow location all**
- **show gsp trace server error api location all**
- **show gsp trace server error minor location all**
- **show gsp trace server ens location all**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

<b>Task ID</b>	<b>Operations</b>
basic-services or cisco-support	read
sysmgr	read

## show tech-support igmp snooping

To automatically run **show** commands that display debugging information specific to igmp snooping, use the **show tech-support igmp snooping** command in the EXEC mode.

**show tech-support igmp snooping** [*file send-to*] [*location node-id*] [*terminal*]

Syntax	Description
<b>file</b>	(Optional) Specifies that the command output is saved to a specified file.
<i>send-to</i>	(Optional) Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>nvram:</b> <i>filename</i></li> <li>• <b>rep:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>location</b>	(Optional) Specifies a node.
<i>node-id</i>	(Optional) Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>terminal</b>	Specifies that the command output is displayed on the terminal.
<b>page</b>	(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl+C</b> keys to stop the command output.

**Command Default** Output is logged to the terminal screen.

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.9.0	This command was introduced.

### Usage Guideline

#### Tip

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates igmp snooping debug information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.



#### Note

This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support igmp snooping** command:

- **show version**
- **show running-config sanitize**
- **show redundancy**
- **show logging**
- **show platform**
- **show install active detail**
- **show install committed detail**
- **show install inactive detail**
- **show pkgfs trace location all**
- **show install trace loadpath location** *node-id*
- **show install trace io location** *node-id*
- **show install trace instdir-lr location** *node-id*
- **show install trace insthelper location** *node-id*
- **show install trace notify location** *node-id*

- **show install trace replicator location** *node-id*
- **show install trace pkg location** *node-id*
- **show install trace inv location** *node-id*
- **show install trace platform location** *node-id*
- **show install trace ior location** *node-id*
- **show install trace state-file-replication location** *node-id*
- **show install trace sds location** *node-id*
- **show memory summary location** *node-id*
- **show context location** *node-id*
- **show processes memory location** *node-id*
- **show processes aborts location** *node-id*
- **show processes blocked location** *node-id*
- **show pkgfs trace location** *node-id*
- **show filesystem location** *node-id*
- **run diskinfo** (various)

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

### Task ID

Task ID	Operations
cisco-support	read

### Examples

The following example shows a truncated version of the **show tech-support igmp snooping** command output:

```
RP/0/0/CPU0:router# show tech-support igmp snooping terminal
```

```
-----
show tech-support igmp snooping
-----
```

```
----- show version -----
```

```
Cisco IOS XR Software, Version 3.9.0[00]
Copyright (c) 2009 by Cisco Systems, Inc.
```

```
ROM: System Bootstrap, Version 1.1(20090521:183759) [ASR9K ROMMON],
```

```
MCAST-6 uptime is 6 days, 20 hours, 50 minutes
System image file is "bootflash:disk0/asr9k-os-mbi-3.9.0/mbiasr9k-rp.vm"
```

## show tech-support igmp snooping

```

cisco ASR9K Series (MPC8641D) processor with 4194304K bytes of memory.
MPC8641D processor at 1333MHz, Revision 2.2

2 Management Ethernet
45 GigabitEthernet
219k bytes of non-volatile configuration memory.
975M bytes of compact flash card.
33994M bytes of hard disk.
1605616k bytes of disk0: (Sector size 512 bytes).
1605616k bytes of disk1: (Sector size 512 bytes).

Configuration register on node 0/RSP0/CPU0 is 0x1922
Boot device on node 0/RSP0/CPU0 is disk0:
Package active on node 0/RSP0/CPU0:
asr9k-scfclient, V 3.9.0[00], Cisco Systems, at disk0:asr9k-scfclient-3.9.0
  Built on Mon Dec 14 12:38:43 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-diags, V 3.9.0[00], Cisco Systems, at disk0:asr9k-diags-3.9.0
  Built on Mon Dec 14 12:38:44 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-mcast, V 3.9.0[00], Cisco Systems, at disk0:asr9k-mcast-3.9.0
  Built on Mon Dec 14 13:33:02 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-mpls, V 3.9.0[00], Cisco Systems, at disk0:asr9k-mpls-3.9.0
  Built on Mon Dec 14 13:31:50 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-rout, V 3.9.0[00], Cisco Systems, at disk0:asr9k-rout-3.9.0
  Built on Mon Dec 14 12:38:56 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-lc, V 3.9.0[00], Cisco Systems, at disk0:asr9k-lc-3.9.0
  Built on Mon Dec 14 13:28:31 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-fwdg, V 3.9.0[00], Cisco Systems, at disk0:asr9k-fwdg-3.9.0
  Built on Mon Dec 14 12:34:50 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-admin, V 3.9.0[00], Cisco Systems, at disk0:asr9k-admin-3.9.0
  Built on Mon Dec 14 12:29:39 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-base, V 3.9.0[00], Cisco Systems, at disk0:asr9k-base-3.9.0
  Built on Mon Dec 14 12:32:17 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-os-mpi, V 3.9.0[00], Cisco Systems, at disk0:asr9k-os-mpi-3.9.0
  Built on Mon Dec 14 12:12:19 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

Boot device on node 0/1/CPU0 is mem:
Package active on node 0/1/CPU0:
asr9k-scfclient, V 3.9.0[00], Cisco Systems, at disk0:asr9k-scfclient-3.9.0
  Built on Mon Dec 14 12:38:43 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-diags, V 3.9.0[00], Cisco Systems, at disk0:asr9k-diags-3.9.0
  Built on Mon Dec 14 12:38:44 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-mcast, V 3.9.0[00], Cisco Systems, at disk0:asr9k-mcast-3.9.0
  Built on Mon Dec 14 13:33:02 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-mpls, V 3.9.0[00], Cisco Systems, at disk0:asr9k-mpls-3.9.0
  Built on Mon Dec 14 13:31:50 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

```

```

asr9k-lc, V 3.9.0[00], Cisco Systems, at disk0:asr9k-lc-3.9.0
  Built on Mon Dec 14 13:28:31 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-fwdg, V 3.9.0[00], Cisco Systems, at disk0:asr9k-fwdg-3.9.0
  Built on Mon Dec 14 12:34:50 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-admin, V 3.9.0[00], Cisco Systems, at disk0:asr9k-admin-3.9.0
  Built on Mon Dec 14 12:29:39 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-base, V 3.9.0[00], Cisco Systems, at disk0:asr9k-base-3.9.0
  Built on Mon Dec 14 12:32:17 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-os-mpi, V 3.9.0[00], Cisco Systems, at disk0:asr9k-os-mpi-3.9.0
  Built on Mon Dec 14 12:12:19 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

Boot device on node 0/2/CPU0 is mem:
Package active on node 0/2/CPU0:
asr9k-scfclient, V 3.9.0[00], Cisco Systems, at disk0:asr9k-scfclient-3.9.0
  Built on Mon Dec 14 12:38:43 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-diags, V 3.9.0[00], Cisco Systems, at disk0:asr9k-diags-3.9.0
  Built on Mon Dec 14 12:38:44 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-mcast, V 3.9.0[00], Cisco Systems, at disk0:asr9k-mcast-3.9.0
  Built on Mon Dec 14 13:33:02 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-mpis, V 3.9.0[00], Cisco Systems, at disk0:asr9k-mpis-3.9.0
  Built on Mon Dec 14 13:31:50 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-lc, V 3.9.0[00], Cisco Systems, at disk0:asr9k-lc-3.9.0
  Built on Mon Dec 14 13:28:31 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-fwdg, V 3.9.0[00], Cisco Systems, at disk0:asr9k-fwdg-3.9.0
  Built on Mon Dec 14 12:34:50 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-admin, V 3.9.0[00], Cisco Systems, at disk0:asr9k-admin-3.9.0
  Built on Mon Dec 14 12:29:39 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-base, V 3.9.0[00], Cisco Systems, at disk0:asr9k-base-3.9.0
  Built on Mon Dec 14 12:32:17 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

asr9k-os-mpi, V 3.9.0[00], Cisco Systems, at disk0:asr9k-os-mpi-3.9.0
  Built on Mon Dec 14 12:12:19 UTC 2009
  By sjc-lds-524 in /auto/srcarchive3/production/3.9.0/asr9k/workspace for c4.2.1-p0

```

```

----- show running-config igmp snooping -----
igmp snooping profile prof1
  ttl-check disable
  router-alert-check disable
!
```

```

----- show igmp snooping summary statistics debug -----

Bridge Domains:                1
IGMP Snooping Bridge Domains: 1
Ports:                          2
IGMP Snooping Ports:           1
Mrouters:                       0

```

## show tech-support igmp snooping

```

STP Forwarding Ports:                                0
IGMP Groups:                                         0
  Member Ports:                                     0
IGMP Source Groups:                                 0
  Static/Include/Exclude:                           0/0/0
  Member Ports (Include/Exclude):                    0/0
Traffic Statistics (elapsed time since last cleared 6d20h):
  Received  Reinjectd  Generated
Messages:
  IGMP General Queries:                             0           0           0
  IGMP Group Specific Queries:                       0           0           0
  IGMP G&S Specific Queries:                         0           0           0
  IGMP V2 Reports:                                   0           0           0
  IGMP V3 Reports:                                   0           0           0
  IGMP V2 Leaves:                                    0           0           0
  IGMP Global Leaves:                                0           -           0
  PIM Hellos:                                        0           0           -
Rx Packet Treatment:
  Packets Flooded:                                   0
  Packets Forwarded To Members:                      0
  Packets Forwarded To Mrouters:                     0
  Packets Consumed:                                  0
Rx Errors:
  None
Rx Other:
  None
Tx Errors:
  None
L2FIB Statistics (elapsed time since last cleared 6d20h):
  BD Created Notifications:                           2
  BD Deleted Notifications:                           1
  EFP Added Notifications:                            9
  EFP Removed Notifications:                          2
  EFP STP Change Notifications:                       4
  BD Topology Change Notifications:                   0
  BD Added:                                           2
  BD Deleted:                                         1
  BD Profile Change:                                  0
  BD Profile Added:                                   0
  BD Profile Removed:                                 0
  BD Batch Start:                                     4
  BD Batch End:                                       4
  BD Mark:                                            0
  BD Sweep:                                           1
  EFP Added:                                          4
  EFP Deleted:                                        2
  EFP Profile Changed:                                0
  EFP Profile Unchanged:                              5
  EFP Profile Added:                                  0
  EFP Profile Removed:                                0
  EFP Oper State To Up:                               3
  EFP Oper State To Down:                             1
  EFP STP State To Forwarding:                        2
  EFP STP State To Blocked:                           0
  EFP STP State To Not Participating:                 0
  EFP Batch Start:                                    10
  EFP Batch End:                                      10
  EFP Mark:                                           0
  EFP Sweep:                                          1
  L2FIB Replay:                                       3
  Mroute Msgs Sent:                                   4
  Cfg Msgs Sent:                                      8
  BDXC Send:                                          8
  Errors:
    None
Network Statistics (elapsed time since last cleared 6d20h):
  Socket Event:                                       0
  Network Connection Open Event:                       2
  Network Connection Close Event:                     0
  Packet Event:                                        2
  Packet Event Disconnect:                             0
  Packet Event Empty:                                  0
  Packet Event Empty Watermark:                       2

```

```

Rx IGMP Packet Attempt:      0
Rx IGMP Packet Success:     0
Rx PIM Packet Attempt:      0
Rx PIM Packet Success:     0
Tx IGMP Packet Attempt:     0
Tx IGMP Packet Success:     0
Errors:
  None
Internal Data:
  Ltrace:      Enabled
  Error Debug: Disabled
  Other Debug: Disabled
  System Mac:  00:00:00:00:00:00
Internal Statistics (elapsed time since last cleared 6d20h):
  None

```

----- show igmp snooping bridge-domain detail statistics debug -----

Bridge Domain	Profile	Act	Ver	#Ports	#Mrtrs	#Grps	#SGs
bg:bd	prof1	Y	--	2	0	0	0

```

Profile Configured Attributes:
  System IP Address:      0.0.0.0
  Minimum Version:       2
  Report Suppression:    Enabled
  Unsolicited Report Interval: 1000 (milliseconds)
  TCN Query Solicit:    Disabled
  TCN Flood:             Enabled
  TCN Flood Query Count: 2
  Router Alert Check:    Disabled
  TTL Check:             Disabled
  Internal Querier Support: Disabled
  Querier Query Interval: 60 (seconds)
  Querier LMQ Interval:  1000 (milliseconds)
  Querier LMQ Count:     2
  Querier Robustness:    2
Querier:                  Not Present
Mrouter Ports:           0
STP Forwarding Ports:   0
Groups:                  0
  Member Ports:         0
V3 Source Groups:       0
  Static/Include/Exclude: 0/0/0
  Member Ports (Include/Exclude): 0/0
XID:                     BD:0x0
Creation Time:           1d00h
Snooping Creation Time: 1d00h
Flood Mode:             Disabled
Star Star Mroute PD Data:
  Size:                  4
  Data:                  0x00 0x00 0x80 0x81
Client L2Info:          None
MTU:                    1400
Traffic Statistics (elapsed time since last cleared 5d20h):
  Received  Reinjected  Generated
Messages:
  IGMP General Queries:      0      0      0
  IGMP Group Specific Queries: 0      0      0
  IGMP G&S Specific Queries: 0      0      0
  IGMP V2 Reports:          0      0      0
  IGMP V3 Reports:          0      0      0
  IGMP V2 Leaves:          0      0      0
  IGMP Global Leaves:      0      -      0
  PIM Hellos:               0      0      -
Rx Packet Treatment:
  Packets Flooded:          0
  Packets Forwarded To Members: 0
  Packets Forwarded To Mrouters: 0
  Packets Consumed:        0
Rx Errors:

```

**show tech-support igmp snooping**

```
None
Rx Other:
None
Tx Errors:
None
```

# show tech-support install

To automatically run **show** commands that display information specific to installation information, use the **show tech-support install** command in the EXEC and administration EXEC modes .

**show tech-support install** [**page** | **file** *send-to*[**background**] [**compressed**| **uncompressed**]] [**location** *node-id*] [**rack**]

## Syntax Description

<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).
<b>file</b>	(Optional) Specifies that the command output is saved to a specified file.
<i>send-to</i>	(Optional) Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.

<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>rack</b>	(Optional) Displays the list of racks.

**Command Default** Output is logged to the terminal screen.

**Command Modes** Administration EXEC  
EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced.

**Usage Guidelines** This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support install** command to run **show** commands that display information specific to installation information. This command is useful for any problems encountered while executing install operations on the system during an install activate, install add, remove, or commit operation. This command generates installation information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support install** command:

- **show install request**
- **show version**
- **show install active summary**
- **show install committed summary**
- **show install package all detail**
- **show install log verbose**
- **show running-config sanitize**
- **show redundancy**
- **show logging**
- **show platform**
- **show install active detail**
- **show install committed detail**
- **show install inactive detail**
- **show pkgfs trace location all**
- **show install trace loadpath location** *node-id*
- **show install trace io location** *node-id*
- **show install trace instdir-lr location** *node-id*
- **show install trace insthelper location** *node-id*
- **show install trace notify location** *node-id*
- **show install trace replicator location** *node-id*
- **show install trace pkg location** *node-id*
- **show install trace inv location** *node-id*
- **show install trace platform location** *node-id*
- **show install trace ior location** *node-id*
- **show install trace state-file-replication location** *node-id*
- **show install trace sds location** *node-id*
- **show memory summary location** *node-id*
- **show context location** *node-id*
- **show processes memory location** *node-id*
- **show processes aborts location** *node-id*
- **show processes blocked location** *node-id*
- **show pkgfs trace location** *node-id*

- **show filesystem location** *node-id*
- **run diskinfo** (various)

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

<b>Task ID</b>	<b>Operations</b>
basic-services or cisco-support	read
pkg-mgmt	read

## show tech-support l2tp

To automatically run **show** commands that display information specific to Layer 2 Tunnel Protocol (L2TP) technical support, use the **show tech-support l2tp** command in EXEC mode.

```
show tech-support l2tp {file send-to [background] [compressed|uncompressed] terminal [page]}
```

### Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>terminal</b>	Specifies that the command output is displayed on the terminal.
<b>page</b>	(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl+C</b> keys to stop the command output.

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced.

### Usage Guideline

#### Tip

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command collects relevant data for Layer 2 tunneling protocol-related issues that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.



#### Note

This command is not required during normal use of the router.

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL: [http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

Task ID	Task ID	Operations
	cisco-support	read

### Examples

The following example shows some of the **show tech-support l2tp** command output that is displayed on the terminal:

```
RP/0/0/CPU0:router# show tech-support l2tp terminal page
-----
          show tech-support l2tp (Detailed output with event traces)
-----

----- show l2tp session detail -----
----- show l2tp tunnel detail -----

----- show l2tp internal -----
L2TP Internal information:
```

```

L2X information:
  Rx high water mark      : 0
  Ave msg process usecs   : 0
  Num rx messages         : 0
  Num tx messages         : 0
  Num reordered msgs      : 0
  Max reorder deviation   : 0
  Num ooo msgs            : 0
  Num rx path drops       : 0
  Num rx q overflow drops : 0
  Num buffered msgs       : 0
L2TUN information:
  Ave msg process usecs   : 0
  Num rx messages         : 1
  Num tx messages         : 1

```

```
----- show l2tp counters control tunnel -----
```

```
Global L2TP tunnel control message statistics:
```

	XMIT	RE-XMIT	RCVD	DROP
	=====	=====	=====	=====
ZLB	0	0	0	0
SCCRQ	0	0	0	0
SCCRP	0	0	0	0
SCCCN	0	0	0	0
StopCCN	0	0	0	0
Hello	0	0	0	0
OCRQ	0	0	0	0
OCRP	0	0	0	0
OCCN	0	0	0	0
ICRQ	0	0	0	0
ICRP	0	0	0	0
ICCN	0	0	0	0
CDN	0	0	0	0
WEN	0	0	0	0
SLI	0	0	0	0
EXP ACK	0	0	0	0
FSQ	0	0	0	0
FSR	0	0	0	0
SRRQ	0	0	0	0
SRRP	0	0	0	0
CiscoACK	0	0	0	0
Total	0	0	0	0

```
----- show l2tp counters control tunnel all -----
```

```
----- show l2tp counters control tunnel authentication -----
```

```
L2TPv3 Tunnel Authentication Statistics:
```

```
----- show l2tp counters control session fsm state current -----
```

```

Current State  Count
=====
Init           -
Idle           -
Wt-Sock        -
Wt-CC          -
Proc-ICRQ      -
Wt-Rx-ICCN    -
Proc-ICCN      -
Wt-Tx-ICRQ    -
Wt-Tx-ICRP    -
Wt-Tx-ICCN    -
Wt-Rx-ICRP    -
Proc-ICRP     -
established    -
Dead           -

```

```
----- show l2tp counters control session fsm state transition -----
```

```
Old State                New State
```

## show tech-support l2tp

```

----- show l2tp counters control session fsm event -----
Idle  Wt  Wt Proc  Wt Proc  Wt  Wt  Wt  Wt Proc esta Dead
--More-- Building configuration...
      Sock  CC ICRQ  Rx ICCN  Tx  Tx  Tx  Tx Proc
      ICCN  ICRQ ICRP ICCN ICRP
=====
Init      -  -  -  -  -  -  -  -  -  -  -  -  -
Idle      -  -  -  -  -  -  -  -  -  -  -  -  -
Wt-Sock   -  -  -  -  -  -  -  -  -  -  -  -  -
Wt-CC     -  -  -  -  -  -  -  -  -  -  -  -  -
Proc-ICRQ -  -  -  -  -  -  -  -  -  -  -  -  -
Wt-Rx-ICCN -  -  -  -  -  -  -  -  -  -  -  -  -
Proc-ICCN -  -  -  -  -  -  -  -  -  -  -  -  -
Wt-Tx-ICRQ -  -  -  -  -  -  -  -  -  -  -  -  -
Wt-Tx-ICRP -  -  -  -  -  -  -  -  -  -  -  -  -
Wt-Tx-ICCN -  -  -  -  -  -  -  -  -  -  -  -  -
Wt-Rx-ICRP -  -  -  -  -  -  -  -  -  -  -  -  -
Proc-ICRP -  -  -  -  -  -  -  -  -  -  -  -  -
establishe -  -  -  -  -  -  -  -  -  -  -  -  -
Dead      -  -  -  -  -  -  -  -  -  -  -  -  -

```

```
----- show l2tp counters control session fsm event -----
```

```

Event                               State event occurred in
Idle  Wt  Wt Proc  Wt Proc  Wt  Wt  Wt  Wt Proc esta Dead
      Sock  CC ICRQ  Rx ICCN  Tx  Tx  Tx  Tx Proc
      ICCN  ICRQ ICRP ICCN ICRP
=====
Invalid -  -  -  -  -  -  -  -  -  -  -  -  -
CC-Up    -  -  -  -  -  -  -  -  -  -  -  -  -
CC-Down  -  -  -  -  -  -  -  -  -  -  -  -  -
Sock-Ready -  -  -  -  -  -  -  -  -  -  -  -  -
Sock-Down -  -  -  -  -  -  -  -  -  -  -  -  -
Sock-Error -  -  -  -  -  -  -  -  -  -  -  -  -
App-Conn -  -  -  -  -  -  -  -  -  -  -  -  -
App-Disc -  -  -  -  -  -  -  -  -  -  -  -  -
Local-Cont -  -  -  -  -  -  -  -  -  -  -  -  -
Local-Up   -  -  -  -  -  -  -  -  -  -  -  -  -
Local-Down -  -  -  -  -  -  -  -  -  -  -  -  -
DP-Setup  -  -  -  -  -  -  -  -  -  -  -  -  -
Rx-ICRQ   -  -  -  -  -  -  -  -  -  -  -  -  -
ICRQ-OK   -  -  -  -  -  -  -  -  -  -  -  -  -
ICRQ-ERR  -  -  -  -  -  -  -  -  -  -  -  -  -
Rx-ICRP   -  -  -  -  -  -  -  -  -  -  -  -  -
ICRP-OK   -  -  -  -  -  -  -  -  -  -  -  -  -
ICRP-ERR  -  -  -  -  -  -  -  -  -  -  -  -  -
Rx-ICCN   -  -  -  -  -  -  -  -  -  -  -  -  -
ICCN-OK   -  -  -  -  -  -  -  -  -  -  -  -  -
ICCN-ERR  -  -  -  -  -  -  -  -  -  -  -  -  -
Rx-CDN    -  -  -  -  -  -  -  -  -  -  -  -  -
Establishe -  -  -  -  -  -  -  -  -  -  -  -  -
Shut      -  -  -  -  -  -  -  -  -  -  -  -  -
Destroy   -  -  -  -  -  -  -  -  -  -  -  -  -

```

```
----- show processes l2tp_mgr -----
```

```

Job Id: 263
PID: 405734
Executable path: /disk0/hfr-fwdg-3.6.0.16I/bin/l2tp_mgr
Instance #: 1
Version ID: 00.00.0000
Respawn: ON
Respawn count: 1
Max. spawns per minute: 12
Last started: Thu Oct 11 19:25:05 2007
Process state: Run
Package state: Normal
  core: TEXT SHARED MEM MAIN MEM
Max. core: 0
Level: 999
Placement: ON
startup_path: /pkg/startup/l2tp.startup

```

## show tech-support l2vpn

To automatically run **show** commands that display information specific to Layer 2 Virtual Private Network (L2VPN) debugging, use the **show tech-support l2vpn** command in EXEC mode.

```
show tech-support l2vpn {file send-to [background] [compressed] uncompressed] terminal [page] [rack] }
```

### Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>terminal</b>	Specifies that the command output is displayed on the terminal.
<b>page</b>	(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl+C</b> keys to stop the command output.
<b>rack</b>	(Optional) Displays the list of racks.

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced.

### Usage Guideline

#### Tip

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command collects information for Layer 2 VPN related issues that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.



#### Note

This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL: [http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

Task ID	Task ID	Operations
	cisco-support	read

### Examples

The following example shows some of the **show tech-support l2vpn** command output that is displayed on the terminal:

```
RP/0/0/CPU0:router# show tech-support l2vpn terminal page
```

```
-----
show tech-support l2vpn (Detail with Event traces)
-----
```

```
----- show version -----
```

```
Cisco IOS XR Software, Version 3.6.0.16I[SIT1_IMAGE1]
Copyright (c) 2007 by Cisco Systems, Inc.
```

```
ROM: System Bootstrap, Version 1.48(20070928:224557) [CRS-1 ROMMON],
```

```
Pl_CRS-8 uptime is 4 days, 20 hours, 49 minutes
```

```

System image file is "disk0:hfr-os-mbi-3.6.0.16I/mbihfr-rp.vm"

cisco CRS-8/S (7457) processor with 4194304K bytes of memory.
7457 processor at 1197Mhz, Revision 1.2

4 T3 Port controller(s)
20 Packet over SONET/SDH network interface(s)
20 SONET/SDH Port controller(s)
4 Serial network interface(s)
4 Ethernet/IEEE 802.3 interface(s)
16 GigabitEthernet/IEEE 802.3 interface(s)
1019k bytes of non-volatile configuration memory.
38079M bytes of hard disk.
1000592k bytes of ATA PCMCIA card at disk 0 (Sector size 512 bytes).
1000640k bytes of ATA PCMCIA card at disk 1 (Sector size 512 bytes).

Configuration register on node 0/1/CPU0 is 0x102
Boot device on node 0/1/CPU0 is mem:
Package active on node 0/1/CPU0:
hfr-sbc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-sbc-3.6.0.16I
  Built on Tue Oct  2 15:07:32 DST 2007
  By sjce-gf-071.cisco.com in /auto/ioxbuid2/production/3.6.0.16I.SIT1_IMAGE8

hfr-pagent, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-pagent-3.6.0.I
  Built on Tue Oct  2 15:58:47 DST 2007
  By iox42.cisco.com in /auto/ioxbuid2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-fpd, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-fpd-3.6.0.16I
  Built on Tue Oct  2 14:48:41 DST 2007
  By sjce-gf-071.cisco.com in /auto/ioxbuid2/production/3.6.0.16I.SIT1_IMAGE8

hfr-diags, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-diags-3.6.0.16I
  Built on Tue Oct  2 14:48:32 DST 2007
  By sjce-gf-071.cisco.com in /auto/ioxbuid2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mcast, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mcast-3.6.0.16I
  Built on Tue Oct  2 14:26:29 DST 2007
  By sjce-gf-061.cisco.com in /auto/ioxbuid2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mpls, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mpls-3.6.0.16I
  Built on Tue Oct  2 14:22:48 DST 2007
  By sjce-gf-061.cisco.com in /auto/ioxbuid2/production/3.6.0.16I.SIT1_IMAGE8

hfr-lc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-lc-3.6.0.16I
  Built on Tue Oct  2 14:02:24 DST 2007
  By iox26.cisco.com in /auto/ioxbuid2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-fwgd, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-fwgd-3.6.0.16I
  Built on Tue Oct  2 13:57:12 DST 2007
  By iox26.cisco.com in /auto/ioxbuid2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-admin, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-admin-3.6.0.16I
  Built on Tue Oct  2 13:53:07 DST 2007
  By iox26.cisco.com in /auto/ioxbuid2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-base, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-base-3.6.0.16I
  Built on Tue Oct  2 13:51:10 DST 2007
  By iox26.cisco.com in /auto/ioxbuid2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-os-mbi, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-os-mbi-3.6.0.I
  Built on Tue Oct  2 13:28:38 DST 2007
  By iox26.cisco.com in /auto/ioxbuid2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

Configuration register on node 0/4/CPU0 is 0x102
Boot device on node 0/4/CPU0 is disk0:
Package active on node 0/4/CPU0:
hfr-sbc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-sbc-3.6.0.16I
  Built on Tue Oct  2 15:07:32 DST 2007
  By sjce-gf-071.cisco.com in /auto/ioxbuid2/production/3.6.0.16I.SIT1_IMAGE8

hfr-pagent, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-pagent-3.6.0.I
  Built on Tue Oct  2 15:58:47 DST 2007
  By iox42.cisco.com in /auto/ioxbuid2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

```

```

hfr-fpd, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-fpd-3.6.0.16I
  Built on Tue Oct  2 14:48:41 DST 2007
  By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-doc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-doc-3.6.0.16I
  Built on Tue Oct  2 14:48:52 DST 2007
  By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-diags, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-diags-3.6.0.16I
  Built on Tue Oct  2 14:48:32 DST 2007
  By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mgbl, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mgbl-3.6.0.16I
  Built on Tue Oct  2 14:20:33 DST 2007
  By sjce-gf-061.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mcast, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mcast-3.6.0.16I
  Built on Tue Oct  2 14:26:29 DST 2007
  By sjce-gf-061.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mpis, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mpis-3.6.0.16I
  Built on Tue Oct  2 14:22:48 DST 2007
  By sjce-gf-061.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-rout, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-rout-3.6.0.16I
  Built on Tue Oct  2 14:06:14 DST 2007
  By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-k9sec, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-k9sec-3.6.0.16I
  Built on Tue Oct  2 14:43:56 DST 2007
  By sjce-gf-074.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-lc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-lc-3.6.0.16I
  Built on Tue Oct  2 14:02:24 DST 2007
  By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-fwgd, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-fwgd-3.6.0.16I
  Built on Tue Oct  2 13:57:12 DST 2007
  By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-admin, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-admin-3.6.0.16I
  Built on Tue Oct  2 13:53:07 DST 2007
  By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-base, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-base-3.6.0.16I
  Built on Tue Oct  2 13:51:10 DST 2007
  By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-os-mbi, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-os-mbi-3.6.0.16I
  Built on Tue Oct  2 13:28:38 DST 2007
  By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

Configuration register on node 0/4/CPU1 is 0x102
Boot device on node 0/4/CPU1 is disk0:
Package active on node 0/4/CPU1:
hfr-sbc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-sbc-3.6.0.16I
  Built on Tue Oct  2 15:07:32 DST 2007
  By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-pagent, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-pagent-3.6.0.16I
  Built on Tue Oct  2 15:58:47 DST 2007
  By iox42.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-fpd, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-fpd-3.6.0.16I
  Built on Tue Oct  2 14:48:41 DST 2007
  By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-doc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-doc-3.6.0.16I
  Built on Tue Oct  2 14:48:52 DST 2007
  By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-diags, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-diags-3.6.0.16I

```

```
Built on Tue Oct  2 14:48:32 DST 2007
By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mgbl, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mgbl-3.6.0.16I
Built on Tue Oct  2 14:20:33 DST 2007
By sjce-gf-061.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mcast, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mcast-3.6.0.16I
Built on Tue Oct  2 14:26:29 DST 2007
By sjce-gf-061.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mpls, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mpls-3.6.0.16I
Built on Tue Oct  2 14:22:48 DST 2007
By sjce-gf-061.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-rout, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-rout-3.6.0.16I
Built on Tue Oct  2 14:06:14 DST 2007
By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-k9sec, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-k9sec-3.6.0.16I
Built on Tue Oct  2 14:43:56 DST 2007
By sjce-gf-074.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-lc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-lc-3.6.0.16I
Built on Tue Oct  2 14:02:24 DST 2007
By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-fwgd, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-fwgd-3.6.0.16I
Built on Tue Oct  2 13:57:12 DST 2007
By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-admin, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-admin-3.6.0.16I
Built on Tue Oct  2 13:53:07 DST 2007
By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-base, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-base-3.6.0.16I
Built on Tue Oct  2 13:51:10 DST 2007
By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-os-mpi, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-os-mpi-3.6.0.16I
Built on Tue Oct  2 13:28:38 DST 2007
By iox26.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

Configuration register on node 0/6/CPU0 is 0x102
Boot device on node 0/6/CPU0 is mem:
Package active on node 0/6/CPU0:
hfr-sbc, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-sbc-3.6.0.16I
Built on Tue Oct  2 15:07:32 DST 2007
By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-pagent, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-pagent-3.6.0.16I
Built on Tue Oct  2 15:58:47 DST 2007
By iox42.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE1/hfr/8

hfr-fpd, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-fpd-3.6.0.16I
Built on Tue Oct  2 14:48:41 DST 2007
By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-diags, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-diags-3.6.0.16I
Built on Tue Oct  2 14:48:32 DST 2007
By sjce-gf-071.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8

hfr-mcast, V 3.6.0.16I[SIT1_IMAGE1], Cisco Systems, at disk0:hfr-mcast-3.6.0.16I
Built on Tue Oct  2 14:26:29 DST 2007
By sjce-gf-061.cisco.com in /auto/ioxbuild2/production/3.6.0.16I.SIT1_IMAGE8
```

## show tech-support lrd

To automatically run **show** commands that display information specific to logical router daemon (LRD) debugging, use the **show tech-support lrd** command in EXEC mode.

**show tech-support lrd** {file *send-to* [**background**] [**compressed**|**uncompressed**] terminal [**page**] location {*node-id* **all**} [**rack**]}

### Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>terminal</b>	Specifies that the command output is displayed on the terminal.
<b>page</b>	(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl+C</b> keys to stop the command output.
<b>location</b>	(Optional) Specifies a node.

<i>node-id</i>	(Optional) Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>all</b>	(Optional) Specifies all locations.
<b>rack</b>	(Optional) Displays the list of racks.

**Command Modes**

EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

**Usage Guideline** **Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support lrd** command for the LRD debugging, which controls the Secure Domain Router (SDR) architecture. The system always has at least one SDR at any time. It collects relevant information when issues arise with the SDR management within the system. This command can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

**Note**

This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL: [http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

Task ID	Operations
cisco-support	read

**Examples**

The following example shows some of the **show tech-support lrd** command output that is displayed on the terminal:

```
RP/0/0/CPU0:router# show tech-support lrd terminal page
```

-----

```
show tech-support lrd
```

```
-----
lrdbg 'i' getting CONFIG INFO
Starting lrdbg commands for local node.
node_name = node0_RP0_CPU0 chan_name is /net/node0_RP0_CPU0/dev/lrd_local
Local nodeid=513 Local lrdname=Owner Local lrid = 0
lrdbg: Successfully connected to channel /net/node0_RP0_CPU0/dev/lrd_local

Starting lrdbg commands for node = node0_RP0_CPU0 lrid = 0

DLRSC Info for Node = node0_RP0_CPU0 Nodeid = 0x201 lrid = 0
We are the dLRSC, Backup dLRSC is 0x211

--More--
liblrd_dl_node_state_0.dll          0.0
liblrd_dl_sw_state_0.dll            0.0
liblrd_dl_fwd_ldr_0.dll             0.0
liblrd_alpha_fwd.dll               1.0
liblrd_envmon_fwd.dll               1.0
liblrd_invmgr_fwd.dll               1.0
Inventory Info for Node = node0_RP0_CPU0 lrid = 0
Success: node_count=6, ready=1
node=0x11, type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0 lr_n0
node=0x41, type=1, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1 lr_nf
node=0x42, type=1, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1 lr_nf
node=0x61, type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0 lr_n0
node=0x201, type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1 lr_l
node=0x211, type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=2 lr_l

LR name Info for Node = node0_RP0_CPU0

dSC node:          0/RP0/CPU0
standby dSC node: 0/RP1/CPU0

LRs (Configured, pre-existing) basic info:
Name                LRid  dLRSC          backup_dLRSC
-----
Owner                0      0/RP0/CPU0    0/RP1/CPU0

LRs (Configured, pre-existing) basic info:
Lr-Names            LRid  dLRSC          StbydLRSC    Primary      Primary1     McastAddr
-----
Owner                0      0/RP0/CPU0    0/RP1/CPU0  0/RP0/CPU0  0/RP1/CPU0  0

Client Vector for Node = node0_RP0_CPU0
Received 23 currently connected lrd clients
PID   op      eFLAGS      cFLAGS
-----
168027 0x1     0x4         0x3
77863  0x11   0x204       0x1
81963  0x10   0x200       0x0
168024 0x2     0x0         0x0
168026 0x2     0x0         0x0
200800 0x1     0x4         0x1f
204909 0x1     0x4         0xb
209006 0x23   0x84        0xb
385148 0x1     0x4         0x7
385149 0x1     0x4         0x7
381047 0x41   0x25        0x3
381043 0x1     0x4         0x3
381041 0x1     0x4         0x7
397456 0x1     0x4         0x3
397485 0x1     0x14        0x4
397484 0x1     0x14        0x4
397498 0x1     0x4         0x4
405725 0x1     0x4         0x7
```

```

405735      0x1      0x4      0x4
405744      0x40     0x1      0x0
434434      0x1      0x4      0x7
434435      0x1      0x4      0x7
434433      0x1      0x4      0x7

```

```

DLL loaded for Node = node0_RP0_CPU0
          dll name                               version

```

```
Node State Info for Node = node0_RP0_CPU0
```

Type	Node	Nodeid	Prev State	Cur State	LRid	(PD c)
LC (2)	0/1/CPU0	0x11	RUNNING_MBI (5)	RUNNING_ENA (6)	0	(5242)
DRP (1)	0/4/CPU0	0x41	RUNNING_MBI (5)	RUNNING_ENA (6)	0	(119)
DRP (1)	0/4/CPU1	0x42	RUNNING_MBI (5)	RUNNING_ENA (6)	0	(119)
LC (2)	0/6/CPU0	0x61	RUNNING_MBI (5)	RUNNING_ENA (6)	0	(5242)
RP (0)	0/RP0/CPU0	0x201	RUNNING_MBI (5)	RUNNING_ENA (6)	0	(19) )
RP (0)	0/RP1/CPU0	0x211	PRESENT (1)	RUNNING_ENA (6)	0	(19) )

```
Sw State Info for Node = node0_RP0_CPU0
```

Type	Node	Nodeid	PrevState (BAND)	CurState (BAND)	Red-Role/ Red-State	Partner node	Par nae
LC (2)	0/1/CPU0	0x11	INFRA	FINAL	Active/Down	0xffffffff	
DRP (1)	0/4/CPU0	0x41	INFRA	FINAL	Active/Down	0xffffffff	
DRP (1)	0/4/CPU1	0x42	INFRA	FINAL	Active/Down	0xffffffff	
LC (2)	0/6/CPU0	0x61	INFRA	FINAL	Active/Down	0xffffffff	
RP (0)	0/RP0/CPU0	0x201	INFRA	FINAL	Active/Down	0x211	
RP (0)	0/RP1/CPU0	0x211	INFRA	FINAL	Standby/Down	0x201	

```
Config Info for Node = node0_RP0_CPU0
LRd basic configuration data:
```

```

node           : 0x201
lr_id          : 0
lr_name        : Owner
dsc node       : 0x201
dsc partner node : 0x211
dlrsc node     : 0x201
dlrsc partner node : 0x211
am I dSC       : Yes
am I STBY dSC  : NO
am I dLRSC     : Yes
am I STBY dLRSC : NO
primary node   : 0x201
primary node1  : 0x211
mcast addr     : 0x0
mac addr       : 0x01563c0b00

```

```
ADMIN CONFIG is APPLIED
```

```
lrd log file path is /net/node0_RP0_CPU0/tmp/lrd.log
```

```
-----LRD LOG START FOR NODE node0_RP0_CPU0-----
```

```
10/11 10:19:16.309 1 main: ---LRD starting---
```

```
10/11 10:19:16.325 1 main: *****LRD on Node=0x201*****
```

```
10/11 10:19:16.327 1 main: mutex init for inv_mutex DONE.
```

```
10/11 10:19:17.772 1 lrd_get_dsc: dsc = 201
```

```
10/11 10:19:17.774 1 main: We are dsc.
```

```
10/11 10:19:17.776 1 main: Registering with SSM as service provider. Once
```

```
-----
show tech-support lrd
```

```
-----
++++ lrdbg -I -1: lrd server inventory [17:21:35.603 UTC Fri Dec 18 2009] +++++
```

```
Success: node_count=8, ready=1
node=0x1(0/RSP0/CPU0), type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1
lr_name=Owner pd_card_type=0x100302, partner=0x11
node=0x11(0/RSP1/CPU0), type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=2
lr_name=Owner pd_card_type=0x100302, partner=0x1
node=0x4a0(0/FT0/SP), type=5, memsize=256, cpus=1, speed=100, sw_state=1, red_state=0
lr_name=Owner pd_card_type=0x0
node=0x4b0(0/FT1/SP), type=5, memsize=256, cpus=1, speed=100, sw_state=1, red_state=0
lr_name=Owner pd_card_type=0x0
node=0x821(0/0/CPU0), type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0
lr_name=Owner pd_card_type=0x30207
node=0x841(0/2/CPU0), type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0
lr_name=Owner pd_card_type=0x30207
node=0x851(0/3/CPU0), type=2, memsize=256, cpus=1, speed=100, sw_state=0, red_state=0
lr_name=Owner pd_card_type=0x3020a
node=0xe10(0/PM1/SP), type=5, memsize=256, cpus=1, speed=100, sw_state=1, red_state=0
lr_name=Owner pd_card_type=0xf00188
```

```
---- lrdbg -I -1: lrd server inventory [17:21:36.023 UTC Fri Dec 18 2009] ----
```

```
+++ lrdbg -L local_node_lrd: local LR config info [17:21:36.215 UTC Fri Dec 18 2009] +++
```

```
lrdbg 'i' getting CONFIG INFO
Starting lrdbg commands for node = 0/RSP0/CPU0
lrdbg: temp_node_name copied is 0/RSP0/CPU0
node_name = node0_RSP0_CPU0 chan_name = /net/node0_RSP0_CPU0/dev/lrd_local
user_nodeid=1 user_lrname = Owner
Local nodeid=1 Local lrname=Owner
User nodeid=1 User lrname = Owner User lrid=0
lrdbg: Successfully connected to channel /net/node0_RSP0_CPU0/dev/lrd_local

Starting lrdbg commands for node = node0_RSP0_CPU0 lrid = 0

DLRSC Info for Node = node0_RSP0_CPU0 Nodeid = 0x1 lrid = 0
We are the dLRSC, Backup dLRSC is 0x11

Inventory Info for Node = node0_RSP0_CPU0 lrid = 0
Success: node_count=5, ready=1
node=0x1(0/RSP0/CPU0), type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1
lr_name=Owner pd_card_type=0x100302, partner=0x11
node=0x11(0/RSP1/CPU0), type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=2
lr_name=Owner pd_card_type=0x100302, partner=0x1
node=0x821(0/0/CPU0), type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0
lr_name=Owner pd_card_type=0x30207
node=0x841(0/2/CPU0), type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0
lr_name=Owner pd_card_type=0x30207
node=0x851(0/3/CPU0), type=2, memsize=256, cpus=1, speed=100, sw_state=0, red_state=0
lr_name=Owner pd_card_type=0x3020a

LR name Info for Node = node0_RSP0_CPU0

dSC node:          0/RSP0/CPU0
standby dSC node: 0/RSP1/CPU0

LRs (Configured, pre-existing) basic info:
```

```

Name                               LRid  dLRSC          backup_dLRSC
-----
Owner                               0      0/RSP0/CPU0    0/RSP1/CPU0

LRs (Configured, pre-existing) basic info:
Lr-Names                            LRid dLRSC          StbydLRSC      Primary    Primary1    McastAddr    MacAddr
-----
Owner                               0      0/RSP0/CPU0    0/RSP1/CPU0    0/RSP0/CPU0 0/RSP1/CPU0 0
0211bfcfe7e
    
```

Client Vector for Node = node0\_RSP0\_CPU0  
 Received 25 currently connected lrd clients

PID	op	eFLAGS	cFLAGS
213071	0x40	0x1	0x0
213090	0x1	0x4	0x3
163876	0x11	0x204	0x1
176173	0x10	0x200	0x0
184381	0x1	0x4	0x1
213089	0x2	0x0	0x0
208966	0x23	0x84	0x1
229494	0x1	0x4	0x1
221289	0x1	0x4	0x1f
241796	0x41	0x15	0x3
245905	0x40	0x1	0x0
245902	0x1	0x14	0x7
245901	0x1	0x14	0x7
237682	0x1	0x4	0x7
237695	0x1	0x4	0x3
245908	0x40	0x1	0x0
245907	0x40	0x1	0x0
213092	0x1	0x14	0x3
254123	0x1	0x14	0x3
254124	0x1	0x4	0x4
262347	0x1	0x4	0x4
262351	0x1	0x14	0x4
270550	0x1	0x4	0x7
254139	0x40	0x1	0x4
270596	0x40	0x1	0x0

```

DLL loaded for Node = node0_RSP0_CPU0
  liblrd_dl_node_state_0.dll           0.0
  liblrd_dl_sw_state_0.dll             0.0
  liblrd_dl_fwd_ldr_0.dll              0.0
  liblrd_alpha_fwd.dll                 1.0
  liblrd_envmon_fwd.dll                1.0
  liblrd_invmgr_fwd.dll                1.0
  dll name                             version
    
```

Node State Info for Node = node0\_RSP0\_CPU0

Type (old-lr-id)	Node	Nodeid	Prev State	Cur State	LRid	(PD ctype)
RP (0)	0/RSP0/CPU0	0x1	RUNNING_MBI (5)	RUNNING_ENA (6)	0	(0x100302) (-1)
RP (0)	0/RSP1/CPU0	0x11	RUNNING_MBI (5)	RUNNING_ENA (6)	0	(0x100302) (-1)
LC (2)	0/0/CPU0	0x821	RUNNING_MBI (5)	RUNNING_ENA (6)	0	(0x30207) (-1)
LC (2)	0/2/CPU0	0x841	RUNNING_MBI (5)	RUNNING_ENA (6)	0	(0x30207) (-1)
LC (2)	0/3/CPU0	0x851	BRINGDOWN (7)	NOT_PRESENT (0)	0	(0x3020a) (-1)

Sw State Info for Node = node0\_RSP0\_CPU0

Type	Node	Nodeid	PrevState (BAND)	CurState (BAND)	Red-Role/Red-State	Partner node	Pair name
RP (0)	0/RSP0/CPU0	0x1	INFRA	FINAL	Active/Down	0x11	
RP (0)	0/RSP1/CPU0	0x11	INFRA	FINAL	Standby/Down	0x1	
LC (2)	0/0/CPU0	0x821	INFRA	FINAL	Active/Down	0xffffffff	
LC (2)	0/2/CPU0	0x841	INFRA	FINAL	Active/Down	0xffffffff	
LC (2)	0/3/CPU0	0x851	INFRA	--	Unknown/Down	0xffffffff	

Config Info for Node = node0\_RSP0\_CPU0

## show tech-support lrd

Lrd basic configuration data:

```

node                : 0x1
lr_id               : 0
lr_name            : Owner
dsc node           : 0x1
dsc partner node   : 0x11
dlrsc node         : 0x1
dlrsc partner node : 0x11
am I dSC           : Yes
am I STBY dSC      : NO
am I dLRSC         : Yes
am I STBY dLRSC    : NO
primary node       : 0x1
primary node1      : 0x11
mcast addr         : 0x0
mac addr           : 0x0211bfcfe7e

```

ADMIN CONFIG is APPLIED

--- lrdbg -L local\_node\_lrd: local LR config info [17:21:36.695 UTC Fri Dec 18 2009] ----

++++ lrd\_show -I for this SDR-s DSDRSC [17:21:36.846 UTC Fri Dec 18 2009] +++++

```

Success: node_count=5, ready=1
node=0x1, type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1, lr_name=Owner,
pd_card_type=0x100302, partner=0x11
node=0x11, type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=2, lr_name=Owner,
pd_card_type=0x100302, partner=0x1
node=0x821, type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0, lr_name=Owner,
pd_card_type=0x30207
node=0x841, type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0, lr_name=Owner,
pd_card_type=0x30207
node=0x851, type=2, memsize=256, cpus=1, speed=100, sw_state=0, red_state=0, lr_name=Owner,
pd_card_type=0x3020a

```

---- lrd\_show -I for this SDR-s DSDRSC [17:21:37.240 UTC Fri Dec 18 2009] -----

+++ lrdbg -n -1: lrd server node states [17:21:37.386 UTC Fri Dec 18 2009] ++++

Type (old-lr-id)	Node	Nodeid	Prev State	Cur State	LRid	(PD ctype)
RP(0)	0/RSP0/CPU0	0x1	RUNNING_MBI(5)	RUNNING_ENA(6)	0	(0x100302) (-1)
RP(0)	0/RSP1/CPU0	0x11	RUNNING_MBI(5)	RUNNING_ENA(6)	0	(0x100302) (-1)
LC(2)	0/0/CPU0	0x821	RUNNING_MBI(5)	RUNNING_ENA(6)	0	(0x30207) (-1)
LC(2)	0/2/CPU0	0x841	RUNNING_MBI(5)	RUNNING_ENA(6)	0	(0x30207) (-1)
LC(2)	0/3/CPU0	0x851	BRINGDOWN(7)	NOT_PRESENT(0)	0	(0x3020a) (-1)

--- lrdbg -n -1: lrd server node states [17:21:37.766 UTC Fri Dec 18 2009] ----

+++ lrdbg -s -1: lrd server software states [17:21:37.914 UTC Fri Dec 18 2009] ++++

```

-----
Type      Node      Nodeid  PrevState  CurState  Red-Role/  Partner  Pair
          (BAND)   (BAND)   (BAND)     Red-State node      name
-----
RP (0)    0/RSP0/CPU0  0x1     INFRA      FINAL     Active/Down  0x11
RP (0)    0/RSP1/CPU0  0x11    INFRA      FINAL     Standby/Down  0x1
LC (2)    0/0/CPU0     0x821   INFRA      FINAL     Active/Down  0xffffffff
LC (2)    0/2/CPU0     0x841   INFRA      FINAL     Active/Down  0xffffffff
LC (2)    0/3/CPU0     0x851   INFRA      --        Unknown/Down  0xffffffff
-----

```

--- lrdbg -s -1: lrd server software states [17:21:38.294 UTC Fri Dec 18 2009] ----

+++++++ show ltrd-trace server [17:21:38.439 UTC Fri Dec 18 2009] ++++++

lrd\_show\_ltrace -F lrd/sntf -TP1

41 wrapping entries (1024 possible, 0 filtered, 41 total)

Shelfmgr Notfs Rcvd:

adminshut	R/S/I	node_state	cardstate	adminpower
Dec 14 11:19:58.255 lrd/sntf 0/RSP0/CPU0 t13 : 0/0/1		RUNNING_ENA		6
1 0				
Dec 14 11:19:58.259 lrd/sntf 0/RSP0/CPU0 t13 : 0/132/1		PRESENT		1
1 0				
Dec 14 11:19:58.264 lrd/sntf 0/RSP0/CPU0 t13 : 0/130/1		BOOTING		3
1 0				
Dec 14 11:19:58.267 lrd/sntf 0/RSP0/CPU0 t13 : 0/75/0		PRESENT		1
1 0				
Dec 14 11:19:58.268 lrd/sntf 0/RSP0/CPU0 t13 : 0/74/0		PRESENT		1
1 0				
Dec 14 11:19:59.320 lrd/sntf 0/RSP0/CPU0 t13 : 0/1/1		RUNNING_MBI		5
1 0				
Dec 14 11:19:59.335 lrd/sntf 0/RSP0/CPU0 t13 : 0/225/0		PRESENT		1
1 0				
Dec 14 11:19:59.342 lrd/sntf 0/RSP0/CPU0 t13 : 0/132/1		BOOTING		3
1 0				
Dec 14 11:19:59.354 lrd/sntf 0/RSP0/CPU0 t13 : 0/132/1		BOOTING		3
1 0				
Dec 14 11:20:23.304 lrd/sntf 0/RSP0/CPU0 t13 : 0/130/1		MBI_BOOTING		4
1 0				
Dec 14 11:20:23.314 lrd/sntf 0/RSP0/CPU0 t13 : 0/132/1		MBI_BOOTING		4
1 0				
Dec 14 11:21:45.710 lrd/sntf 0/RSP0/CPU0 t13 : 0/130/1		RUNNING_MBI		5
1 0				
Dec 14 11:21:46.237 lrd/sntf 0/RSP0/CPU0 t13 : 0/132/1		RUNNING_MBI		5
1 0				
Dec 14 11:22:01.426 lrd/sntf 0/RSP0/CPU0 t13 : 0/1/1		RUNNING_ENA		6
1 0				
Dec 14 11:23:21.504 lrd/sntf 0/RSP0/CPU0 t13 : 0/130/1		RUNNING_ENA		6
1 0				
Dec 14 11:23:21.511 lrd/sntf 0/RSP0/CPU0 t13 : 0/132/1		RUNNING_ENA		6
1 0				
Dec 14 15:42:37.504 lrd/sntf 0/RSP0/CPU0 t13 : 0/133/1		PRESENT		1
1 0				
Dec 14 15:42:37.608 lrd/sntf 0/RSP0/CPU0 t13 : 0/133/1		BOOTING		3
1 0				
Dec 14 15:42:37.614 lrd/sntf 0/RSP0/CPU0 t13 : 0/133/1		BOOTING		3
1 0				
Dec 14 15:43:02.999 lrd/sntf 0/RSP0/CPU0 t13 : 0/133/1		MBI_BOOTING		4
1 0				
Dec 14 15:43:48.408 lrd/sntf 0/RSP0/CPU0 t13 : 0/133/1		RUNNING_MBI		5
1 0				
Dec 14 15:45:05.176 lrd/sntf 0/RSP0/CPU0 t13 : 0/133/1		RUNNING_ENA		6
1 0				
Dec 15 14:53:15.444 lrd/sntf 0/RSP0/CPU0 t13 : 0/133/1		BRINGDOWN		7

## show tech-support lrd

```

1          0
Dec 15 14:53:15.461 lrd/sntf 0/RSP0/CPU0 t13 : 0/133/1      NOT_PRESENT      0
1          0

```

```
----- show ltrd-trace server [17:21:38.840 UTC Fri Dec 18 2009] -----
```

```
+++++++ show ltrd-trace server [17:21:38.985 UTC Fri Dec 18 2009] ++++++
```

```
lrd_show_ltrace -F lrd/sntf -TP2
```

```
41 wrapping entries (1024 possible, 0 filtered, 41 total)
```

```
Shelfmgr
```

```
Notfs processed:
```

n-state	pd-ctype	pi-ctype	nodeid	o-LRid	LRid	o-state
Dec 14 11:19:58.261	lrd/sntf	0/RSP0/CPU0	t13 : 0/2/CPU0	(0x841)	0	0 NOT_PRESENT
PRESENT	0x0	UNKN				
Dec 14 11:19:58.265	lrd/sntf	0/RSP0/CPU0	t13 : 0/0/CPU0	(0x821)	0	0 NOT_PRESENT
BOOTING	0x0	UNKN				
Dec 14 11:19:58.268	lrd/sntf	0/RSP0/CPU0	t13 : 0/FT1/SP	(0x4b0)	-1	-1 NOT_PRESENT
PRESENT	0x0	UNKN				
Dec 14 11:19:58.269	lrd/sntf	0/RSP0/CPU0	t13 : 0/FT0/SP	(0x4a0)	-1	-1 NOT_PRESENT
PRESENT	0x0	UNKN				
Dec 14 11:19:59.327	lrd/sntf	0/RSP0/CPU0	t13 : 0/RSP1/CPU0	(0x11 )	0	0 NOT_PRESENT
RUNNING MBI	0x100000	RP				
Dec 14 11:19:59.341	lrd/sntf	0/RSP0/CPU0	t13 : 0/PM1/SP	(0xe10)	-1	-1 NOT_PRESENT
PRESENT	0xf00188	UNKN				
Dec 14 11:19:59.345	lrd/sntf	0/RSP0/CPU0	t13 : 0/2/CPU0	(0x841)	0	0 PRESENT
BOOTING	0x0	UNKN				
Dec 14 11:20:23.306	lrd/sntf	0/RSP0/CPU0	t13 : 0/0/CPU0	(0x821)	0	0 BOOTING
MBI_BOOTING	0x30207	LC				
Dec 14 11:20:23.316	lrd/sntf	0/RSP0/CPU0	t13 : 0/2/CPU0	(0x841)	0	0 BOOTING
MBI_BOOTING	0x30207	LC				
Dec 14 11:21:45.711	lrd/sntf	0/RSP0/CPU0	t13 : 0/0/CPU0	(0x821)	0	0 MBI_BOOTING
RUNNING MBI	0x30207	LC				
Dec 14 11:21:46.239	lrd/sntf	0/RSP0/CPU0	t13 : 0/2/CPU0	(0x841)	0	0 MBI_BOOTING
RUNNING MBI	0x30207	LC				
Dec 14 15:42:37.508	lrd/sntf	0/RSP0/CPU0	t13 : 0/3/CPU0	(0x851)	0	0 NOT_PRESENT
PRESENT	0x0	UNKN				
Dec 14 15:42:37.609	lrd/sntf	0/RSP0/CPU0	t13 : 0/3/CPU0	(0x851)	0	0 PRESENT
BOOTING	0x0	UNKN				
Dec 14 15:43:03.000	lrd/sntf	0/RSP0/CPU0	t13 : 0/3/CPU0	(0x851)	0	0 BOOTING
MBI_BOOTING	0x3020a	LC				
Dec 14 15:43:48.409	lrd/sntf	0/RSP0/CPU0	t13 : 0/3/CPU0	(0x851)	0	0 MBI_BOOTING
RUNNING MBI	0x3020a	LC				
Dec 15 14:53:15.447	lrd/sntf	0/RSP0/CPU0	t13 : 0/3/CPU0	(0x851)	0	0 RUNNING_ENA
BRINGDOWN	0x3020a	LC				
Dec 15 14:53:15.462	lrd/sntf	0/RSP0/CPU0	t13 : 0/3/CPU0	(0x851)	0	0 BRINGDOWN
NOT_PRESENT	0x3020a	LC				

```
----- show ltrd-trace server [17:21:39.392 UTC Fri Dec 18 2009] -----
```

```
+++++++ show ltrd-trace server [17:21:39.548 UTC Fri Dec 18 2009] ++++++
```

```
lrd_show_ltrace -F lrd/sreg -TP1
```

```
29 wrapping entries (64 possible, 0 filtered, 29 total)
```

```
Client New Registrations:
```

Event-flags	Card-flags	jid	pid	Msg-op
Dec 14 11:19:47.723	lrd/sreg	0/RSP0/CPU0	t15 : 389	213071 DLRSC
dlrsc-state	Unknwn			
Dec 14 11:19:47.725	lrd/sreg	0/RSP0/CPU0	t15 : 406	213090 Node State

```

card-state RP DRP
Dec 14 11:19:47.727 lrd/sreg 0/RSP0/CPU0 t15 : 95 163876 Pri LR Unknwn
      Unknwn
Dec 14 11:19:47.731 lrd/sreg 0/RSP0/CPU0 t15 : 168 176173 Pri LR Unknwn
      Unknwn
Dec 14 11:19:47.739 lrd/sreg 0/RSP0/CPU0 t15 : 404 184381 Node State
card-state RP
Dec 14 11:19:47.746 lrd/sreg 0/RSP0/CPU0 t15 : 283 213089 LR Crt/Del Unknwn
      Unknwn
Dec 14 11:19:47.755 lrd/sreg 0/RSP0/CPU0 t15 : 225 208966 Node State
card-state RP
Dec 14 11:19:55.671 lrd/sreg 0/RSP0/CPU0 t15 : 226 229494 Node State
card-state RP
Dec 14 11:19:56.522 lrd/sreg 0/RSP0/CPU0 t15 : 335 221289 Node State
card-state RP DRP LC Other
Dec 14 11:20:00.929 lrd/sreg 0/RSP0/CPU0 t15 : 348 241796 DLRSC
dlrsc-state Unknwn
Dec 14 11:20:02.842 lrd/sreg 0/RSP0/CPU0 t15 : 245 245905 DLRSC
dlrsc-state Unknwn
Dec 14 11:20:04.054 lrd/sreg 0/RSP0/CPU0 t15 : 256 245902 Node State
card-state sw-state RP DRP LC
Dec 14 11:20:04.054 lrd/sreg 0/RSP0/CPU0 t15 : 241 245901 Node State
card-state sw-state RP DRP LC
Dec 14 11:20:04.699 lrd/sreg 0/RSP0/CPU0 t15 : 219 237682 Node State
card-state RP DRP LC
Dec 14 11:20:09.686 lrd/sreg 0/RSP0/CPU0 t15 : 289 237695 Node State
card-state RP DRP
Dec 14 11:20:09.904 lrd/sreg 0/RSP0/CPU0 t15 : 246 245908 DLRSC
dlrsc-state Unknwn
Dec 14 11:20:11.607 lrd/sreg 0/RSP0/CPU0 t15 : 266 245907 DLRSC
dlrsc-state Unknwn
Dec 14 11:20:15.748 lrd/sreg 0/RSP0/CPU0 t15 : 155 213092 Node State
card-state sw-state RP DRP
Dec 14 11:20:20.401 lrd/sreg 0/RSP0/CPU0 t15 : 341 254123 Node State
card-state sw-state RP DRP
Dec 14 11:20:24.754 lrd/sreg 0/RSP0/CPU0 t15 : 278 254124 Node State
card-state LC
Dec 14 11:20:29.079 lrd/sreg 0/RSP0/CPU0 t15 : 144 262347 Node State
card-state LC
Dec 14 11:20:33.883 lrd/sreg 0/RSP0/CPU0 t15 : 342 262351 Node State
card-state sw-state LC
Dec 14 11:20:34.194 lrd/sreg 0/RSP0/CPU0 t15 : 181 270550 Node State
card-state RP DRP LC
Dec 14 11:20:36.280 lrd/sreg 0/RSP0/CPU0 t15 : 312 254139 DLRSC
dlrsc-state LC
Dec 14 11:20:53.951 lrd/sreg 0/RSP0/CPU0 t15 : 398 270596 DLRSC
dlrsc-state Unknwn

```

```
----- show ltrd-trace server [17:21:40.125 UTC Fri Dec 18 2009] -----
```

```
+++++++ show ltrd-trace server [17:21:40.326 UTC Fri Dec 18 2009] +++++++
```

```
lrd_show_ltrace -F lrd/sreg -TP2
```

```
29 wrapping entries (64 possible, 0 filtered, 29 total)
```

Event-flags		Card-flags		jid	pid	Client re-Registrations: Curr-msg-op	New-Msg-op
Dec 14 11:19:47.757	lrd/sreg	0/RSP0/CPU0	t15 : 95	163876	Pri LR	Node	
State	Unknwn	Unknwn					
Dec 14 11:20:00.940	lrd/sreg	0/RSP0/CPU0	t15 : 348	241796	DLRSC	Node	
State	dlrsc-state	Unknwn					
Dec 14 11:20:46.317	lrd/sreg	0/RSP0/CPU0	t15 : 225	208966	Node State	LR	
Crt/Del	card-state	RP					
Dec 14 11:20:46.317	lrd/sreg	0/RSP0/CPU0	t15 : 225	208966	unknwn	DLRSC	
Down	card-state	RP					

```
----- show ltrd-trace server [17:21:40.774 UTC Fri Dec 18 2009] -----
```

```
+++++++ show ltrd-trace server [17:21:40.994 UTC Fri Dec 18 2009] ++++++
```

```
No messages to display
lrd_show_ltrace -F lrd/sdwn -TP1
```

```
----- show ltrd-trace server [17:21:41.511 UTC Fri Dec 18 2009] -----
```

```
+++++++ show ltrd-trace server [17:21:41.653 UTC Fri Dec 18 2009] ++++++
```

```
No messages to display
lrd_show_ltrace -F lrd/sdwn -TP2
```

```
----- show ltrd-trace server [17:21:42.014 UTC Fri Dec 18 2009] -----
```

```
+++++++ show ltrd-trace server [17:21:42.150 UTC Fri Dec 18 2009] ++++++
```

```
lrd_show_ltrace -F lrd/supd -TP1
```

```
20 wrapping entries (1024 possible, 0 filtered, 20 total)
```

red-role	partner	pi-ctype	LRid	nodeid	SW updates sent:	
					o-state	n-state
Dec 14 11:19:47.645	lrd/supd	0/RSP0/CPU0	t3	: 0/RSP0/CPU0(0x1 )	NO STATE	ARB BAND
Active	0x11	RP	0			
Dec 14 11:19:56.368	lrd/supd	0/RSP0/CPU0	t4	: 0/RSP0/CPU0(0x1 )	ARB BAND	ADMIN BAND
Active	0x11	RP	0			
Dec 14 11:20:18.381	lrd/supd	0/RSP0/CPU0	t1	: 0/RSP0/CPU0(0x1 )	ADMIN BAND	INFRA BAND
Active	0x11	RP	0			
Dec 14 11:20:54.823	lrd/supd	0/RSP0/CPU0	t4	: 0/RSP0/CPU0(0x1 )	INFRA BAND	FINAL BAND
Active	0x11	RP	0			

## show tech-support mpls ldp

To automatically run **show** commands that display information specific to Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP) debugging, use the **show tech-support mpls ldp** command in EXEC mode.

```
show tech-support mpls ldp {file send-to [background] [compressed|uncompressed]} terminal [page]|
location node-id}
```

### Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>terminal</b>	Specifies that the command output is displayed on the terminal.

---

**page** (Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).

Press the **Ctrl+C** keys to stop the command output.

---

**location** (Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.

---

**Command Modes**

EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates LDP debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

<b>Task ID</b>	<b>Operations</b>
cisco-support	read
mpls-ldp	read

## show tech-support mpls optical-uni

To automatically run **show** commands that display information specific to Multiprotocol Label Switching (MPLS) Optical User Network Interface (O-UNI) debugging, use the **show tech-support mpls optical-uni** command in EXEC mode.

**show tech-support mpls optical-uni** {file *send-to* [**background**] [**compressed**|**uncompressed**]} **terminal** [**page**]

### Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvram:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>terminal</b>	Specifies that the command output is displayed on the terminal.
<b>page</b>	(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl+C</b> keys to stop the command output.

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced.

**Usage Guidelines** This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.



**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates O-UNI debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.



**Note**

This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

Task ID	Task ID	Operations
	cisco-support	read
	ouni	read

## show tech-support mpls rsvp

To automatically run **show** commands that display information specific to Multiprotocol Label Switching (MPLS) Resource Reservation Protocol (RSVP) debugging, use the **show tech-support mpls rsvp** command in EXEC mode.

```
show tech-support mpls rsvp {terminal [page]| file send-to [background] [compressed|uncompressed]}
```

### Syntax Description

<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	Specifies that the command output is saved to a specified file.
<i>sent-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.

**Command Default** The command output is not compressed.

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced.

### Usage Guideline

**Tip** This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support mpls** command to run **show** commands that display information specific to MPLS RSVP debugging. This command generates RSVP debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.



**Note** This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support mpls rsvp** command:

- **show rsvp interface detail**
- **show rsvp counters pak**
- **show rsvp counters handles**
- **show rsvp counters database private**
- **show rsvp counters messages private**
- **show rsvp counters memory**
- **show rsvp counters events**
- **show rsvp counters notifications-client**
- **show rsvp counters request**
- **show rsvp counters destroy-reasons**
- **show rsvp counters policy**
- **show rsvp graceful-restart**
- **show rsvp fast-reroute summary**

- **show rsvp graceful-restart neighbors detail**
- **show rsvp hello instance detail**
- show rsvp sender detail
- **show rsvp reservation detail**
- **show rsvp request detail**
- **show rsvp session detail**
- **show rsvp authentication**
- **show rsvp sender private**
- **show rsvp reservation private**
- **show rsvp request private**
- **show rsvp interface private**
- **show rsvp installed private**
- **show rsvp trace events**
- **show rsvp trace default**
- **show rsvp trace buffer**
- **show rsvp trace interface**
- **show rsvp trace errors**
- **show rsvp trace client**
- **show rsvp debug-error**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

#### Task ID

Task ID	Operations
cisco-support	read
mpls-te or oui	read

#### Examples

The following example shows some of the **show tech-support mpls rsvp** command output:

```
RP/0/0/CPU0:router# show tech-support mpls rsvp terminal page
```

```
-----
show tech-support mpls rsvp (Detail with Event traces)
-----
```

```

----- show rsvp interface detail -----
INTERFACE: GigE0/1/0/0 (ifh=0x1180060).
VRF ID: 0x0 (Default).
BW (bits/sec): Max=1230M. MaxFlow=1230M.
                Allocated=0 (0%). MaxSub=0.
Signalling: No DSCP marking. No rate limiting.
States in: 0. Max missed msgs: 4.
Expiry timer: Not running. Refresh interval: 45s.
Normal Refresh timer: Not running. Summary refresh timer: Not running.
Refresh reduction local: Enabled. Summary Refresh: Enabled (4096 bytes max).

Reliable summary refresh: Disabled. Bundling: Enabled. (4096 bytes max).
Ack hold: 400 ms, Ack max size: 4096 bytes. Retransmit: 900ms.

```

```

----- show rsvp counters pak -----
Number of pak TX=0
Number of pak events received from raw=1
Number of spurious events received from raw=1
Number of packets received from raw=0
Number of errored drops=0
Authentication queue:
  Number of enqueues=0
  Number of drops due to max q size=0
  High water mark=0
  Current queue size=0
High priority queue:
  Number of enqueues=0
  Number of drops due to max q size=0
  High water mark=0
  Current queue size=0
Low priority queue:
  Number of enqueues=0
  Number of drops due to max q size=0
  High water mark=0
  Current queue size=0

```

```

----- show rsvp counters handles -----
      All allocated handles:      5
Unallocated cached handles: 1019
-----
      LXSB handles:      1
      ISB handles:      2
      KI handles:      1
-----
Total handles ever allocated:      5
Total handles ever freed:      0

```

```

----- show rsvp counters database private -----
      Sessions: 0
      Locally created and incoming Paths: 0
      Outgoing Paths: 0
Locally created and incoming Reservations: 0
      Outgoing Reservations: 0
      Interfaces: 2
      Installed: 0
      New LSP count: 0
      Refreshed LSP count: 0
      LSP count recovered from checkpoint: 0
      Proxy Senders: 0
      Proxy Reservations: 0
      Proxy Listeners: 1
      TMB allocation: 0
      Local Routes: 22

```

```

----- show rsvp counters messages private -----
Routed          Recv      Xmit          Recv      Xmit

```

## show tech-support mpls rsvp

```

Path 0 Resv 0
PathError 0 ResvError 0
PathTear 0 ResvTear 0
ResvConfirm 0 Hello 0
Ack 0 SRefresh 0
Challenge 0 ChallengeRsp 0
Retransmit 0 Rate Limited 0
OutOfOrder
Bundle 0 AckSubmsg 0
PathSubmsg 0 ResvSubmsg 0
PathTearSubmsg 0 ResvTearSubmsg 0
PathErrorSubmsg 0 ResvErrorSubmsg 0
PathQuery 0

POS0/1/0/0 Recv Xmit Recv Xmit
Path 0 0 Resv 0 0
PathError 0 0 ResvError 0 0
PathTear 0 0 ResvTear 0 0
ResvConfirm 0 0 Hello 0 0
Ack 0 0 SRefresh 0 0
Challenge 0 0 ChallengeRsp 0 0
Retransmit 0 0 Rate Limited 0 0
OutOfOrder
Bundle 0 0 AckSubmsg 0 0
PathSubmsg 0 0 ResvSubmsg 0 0
PathTearSubmsg 0 0 ResvTearSubmsg 0 0
PathErrorSubmsg 0 0 ResvErrorSubmsg 0 0
PathQuery 0 0

All RSVP Interfaces Recv Xmit Recv Xmit
Path 0 0 Resv 0 0
PathError 0 0 ResvError 0 0
PathTear 0 0 ResvTear 0 0
ResvConfirm 0 0 Hello 0 0
Ack 0 0 SRefresh 0 0
Challenge 0 0 ChallengeRsp 0 0
Retransmit 0 0 Rate Limited 0 0
OutOfOrder
Bundle 0 0 AckSubmsg 0 0
PathSubmsg 0 0 ResvSubmsg 0 0
PathTearSubmsg 0 0 ResvTearSubmsg 0 0
PathErrorSubmsg 0 0 ResvErrorSubmsg 0 0
PathQuery 0 0

```

```

----- show rsvp counters memory -----
Pool size Count
-----
32 0
48 0
96 0
128 0
192 0
256 0
Dynamic 0

```

```

----- show rsvp counters events -----
POS0/1/0/0 All RSVP Interfaces
Expired Path states 0 Expired Path states 0
Expired Resv states 0 Expired Resv states 0
NACKs received 0 NACKs received 0

```

```

----- show rsvp counters notifications-client -----
Total notifications Total filtered notifications
Path delete 0 Path delete 0
Path error 0 Path error 0
Path change 0 Path change 0
Matching Resv create 0 Matching Resv create 0
Matching Resv change 0 Matching Resv change 0
Matching Resv delete 0 Matching Resv delete 0
Async Path create 0 Async Path create 0
Resv delete 0 Resv delete 0
Resv error 0 Resv error 0

```

Resv confirm	0	Resv confirm	0
Async Resv create	0	Async Resv create	0
Listener Path create	0	Listener Path create	0
Listener Path change	0	Listener Path change	0
Listener Path delete	0	Listener Path delete	0
Listener Path FRR	0	Listener Path FRR	0
Listener Assign Backup err	0	Listener Assign Backup err	0
Listener Resv create	0	Listener Resv create	0
Listener Resv change	0	Listener Resv change	0
Listener Resv delete	0	Listener Resv delete	0
Restart Time	0	Restart Time	0
Recovery Done	0	Recovery Done	0

## show tech-support mpls traffic-eng

To automatically run **show** commands that display information specific to Multiprotocol Label Switching (MPLS) Traffic Engineering (TE) debugging, use the **show tech-support mpls traffic-eng** command in EXEC mode.

```
show tech-support mpls traffic-eng {terminal [page]| file send-to [background] [compressed|uncompressed]} [forwarding tunnel-name tunnel name] [tunnel-number number]
```

### Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>forwarding</b>	(Optional) Displays forwarding information for a tunnel.
<b>tunnel-name</b>	Specifies the tunnel name that is used by the RSVP process.
<i>tunnel name</i>	Name for the tunnel.
<b>terminal</b>	Specifies that the command output is displayed on the terminal.

<b>page</b>	(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl+C</b> keys to stop the command output.
<b>tunnel-number</b>	(Optional) Specifies the tunnel number that is used by the RSVP process.
<i>number</i>	(Optional) Number for the tunnel. The range is from 0 to 65535.

**Command Modes** EXEC

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 3.2	This command was introduced.

#### Usage Guideline

**Tip** This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates MPLS-TE information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.



**Note** This command is not required during normal use of the router.

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

<b>Task ID</b>	<b>Task ID</b>	<b>Operations</b>
	cisco-support	read
	mpls-te	read

**Examples**

The following example shows some of the **show tech-support mpls traffic-eng** command output that is displayed on the terminal:

```
RP/0/0/CPU0:router# show tech-support mpls traffic-eng terminal page
-----
show tech-support mpls traffic-eng
-----

----- show mpls traffic-eng tunnels summary -----
Signalling Summary:
    LSP Tunnels Process: running
    RSVP Process: running
    Forwarding: enabled
Head: 0 interfaces, 0 active signalling attempts, 0 established
      0 explicit, 0 dynamic
      0 activations, 0 deactivations
      0 recovering, 0 recovered
Mids: 2
Tails: 0
    Periodic reoptimization: every 3600 seconds, next in 2703 seconds
    Periodic FRR Promotion: every 300 seconds, next in 106 seconds
    Periodic auto-bw collection: disabled

Fast ReRoute Summary:
Head: 0 FRR tunnels, 0 protected, 0 rerouted
Mid: 0 FRR tunnels, 0 protected, 0 rerouted
Summary: 0 protected, 0 link protected, 0 node protected, 0 bw protected
Backup: 0 tunnels, 0 assigned
Interface: 0 protected, 0 rerouted

----- show mpls traffic-eng counters tunnels summary -----
Head:
Total: 0 Total: 8 Total: 0
Sender Create: 0 Path Create: 2 Path Create: 0
Sender Modify: 0 Path Change: 0 Path Change: 0
Sender Delete: 0 Path Delete: 0 Path Delete: 0
RESV Create: 0 Receiver Create: 2 Receiver Create: 0
RESV Change: 0 Receiver Modify: 0 Receiver Modify: 0
RESV Delete: 0 Receiver Delete: 0 Receiver Delete: 0
Path Delete: 0 RESV Create: 2 RESV Create: 0
Path Error: 0 RESV Delete: 0 RESV Delete: 0
Path Change: 0 RESV Change: 0 RESV Change: 0
Path Create: 0 Sender Create: 2 RESV Error: 0
RESV Confirm: 0 Sender Modify: 0
              Sender Delete 0
Other: 0 Other: 0 Other: 0

----- show mpls traffic-eng counters batch -----
Messages  Batches  MinSize  MaxSize  AverageSize  Description
-----
0          0          0          0          0          IF CREATE
0          0          0          0          0          CAPS ADD
0          0          0          0          0          MTU UPDATE
0          0          0          0          0          STATE UPDATE
0          0          0          0          0          IF REPLICATE
0          0          0          0          0          IF DEL CONFIRM
0          0          0          0          0          IF DELETE
25         23         1          2          1          NOTFN from IM
4          2          2          2          2          MESSAGE to RSVP
9          6          1          2          1          MESSAGES from RSVP
0          0          0          0          0          MESSAGES to IGP
0          0          0          0          0          SYSDB VRFNs
0          0          0          0          0          SYSDB APPLys
2          1          2          2          2          MESSAGE to LSD
2          2          2          2          1          MESSAGES from LSD
```

```

12          6          1          6          2          MESSAGES to IPARM
----- show mpls traffic-eng link-management statistics summary -----
LSP Admission Statistics::

      Setup      Setup      Setup      Setup      Tear      Tear      Tear
      Requests Admits  Rejects  Errors  Requests Preempts Errors
-----
Path          2          2          0          0          0          0          0
Resv          2          2          0          0          0          0          0
-----

----- show mpls traffic-eng link-management summary -----

System Information::
  Links Count      : 6 (Maximum Links Supported 100)
  Flooding System  : enabled
  IGP Areas Count  : 1

IGP Areas
-----

IGP Area[1]:: OSPF 100 area 0
  Flooding Protocol : OSPF
  Flooding Status   : flooded
--More-- Zero Nodes Found.
  Periodic Flooding : enabled (every 180 seconds)
  Flooded Links      : 6
  IGP System ID      : 10.1.1.1
  MPLS TE Router ID  : 10.1.1.1
  IGP Neighbors      : 6

----- show mpls traffic-eng fast-reroute database summary -----
Status      Count
-----
Active      0
Ready       0
Partial     0

----- show mpls forwarding summary -----
Forwarding entries:
  Label switching: 60
  MPLS TE tunnel head: 0
  MPLS TE fast-reroute: 0 via 0 protected next-hops
  MPLS TE internal: 0
Forwarding updates:
  392 updates, 37 messages
Labels in use:
  Reserved: 3
  Lowest: 0
  Highest: 16059
  Deleted stale label entries: 0

Pkt drops=0, fragm=0, fail_look=0

Pkts dropped: 0
Pkts fragmented: 0
Failed lookups: 0

----- show cef drop location 0/0/cpu0 -----
CEF Drop Statistics

----- show cef drop location 0/1/cpu0 -----
CEF Drop Statistics
Node: 0/1/CPU0
Unresolved drops   packets : 0
Unsupported drops  packets : 0
Null0 drops        packets : 0
No route drops     packets : 0
No Adjacency drops packets : 0

```

```
Checksum error drops packets :          0
```

## show tech-support multicast

To automatically run **show** commands that display information specific to multicast-related information, use the **show tech-support multicast** command in EXEC mode.

```
show tech-support multicast [address-family| classic] [group group-address] {terminal [page]| file send-to}
[background| compressed| uncompressed] [source source address] [location node-id] [rack] [vrf vrf-name]
```

### Syntax Description

<b>address-family</b>	(Optional) Collects address family specific information. It can be either ipv4 or ipv6.
<b>classic</b>	(Optional) Retrieves multicast related information using the non-fast method.
<b>group</b>	(Optional) Specifies the multicast group address.
<i>group-address</i>	(Optional) Address or name of the multicast group. An address is a multicast IP address in four-part dotted-decimal notation. A name is as defined in the Domain Name System (DNS) hosts table.
<b>terminal</b>	(Optional) Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).
<b>file</b>	(Optional) Specifies that the command output is saved to a specified file.

---

<i>sent-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>source</b>	(Optional) Displays the multicast source address.
<i>source address</i>	(Optional) Source address for multicast.
<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>rack</b>	(Optional) Displays the list of racks.
<b>vrf</b>	(Optional) Specifies a VPN routing and forwarding (VRF) instance.
<i>vrf-name</i>	Name of VRF.

---

**Command Default** Output is logged to the terminal screen.

**Command Modes** EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support multicast** command to run **show** commands that display information specific to multicast-related information for PIM, IGMP, and mcast. This command generates multicast information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support multicast** command:

- **show version**
- **show running-config**
- **show ip interface brief**
- **show install**
- **show processes aborts location all**
- **show processes blocked location all**
- **show context location all**
- **show memory summary location all**
- **show ip access-lists show ip mhost default-interface**
- **show msdp summary**
- **show msdp globals**
- **show msdp sa-cache summary**
- **show msdp statistics peer**

- **show pim group-map**
- **show pim topology route-count**
- **show pim topology** *ip-address*
- **show pim rpf count**
- **show pim rpf**
- **show pim traffic**
- **show pim join-prune statistic**
- **show pim interface state-on**
- **show pim tunnel info all**
- **show pim neighbor**
- **show pim nsf**
- **show pim summary**
- **show igmp groups summary**
- **show igmp groups** *group-address*
- **show igmp interface**
- **show igmp traffic**
- **show igmp nsf**
- **show igmp summary**
- **show mrib client filter**
- **show mrib route summary**
- **show mrib route** *source-address*
- **show mrib nsf**
- **show cef ipv4** *prefix location node-id*
- **show mfib route summary location** *node-id*
- **show mfib route** *source-address location node-id*
- **show mfib counter location** *node-id*
- **show mfib nsf location** *node-id*
- **show mfib hardware route mofrr location** *node-id*
- **show mfib hardware route olist detail** *source-address location node-id*
- **show mfib hardware interface detail location** *node-id*
- **show mfib hardware route statistics** *source-address location node-id*
- **show mfib hardware resource-counter location** *node-id*
- **show mfib hardware adjacency detail location** *node-id*

- **show mfib hardware route accept-bitmap detail** *source-address location node-id*

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

<b>Task ID</b>	<b>Operations</b>
basic-services or cisco-support	read
multicast	read

# show tech-support netflow

To automatically run **show** commands that display information specific to netflow debugging, use the **show tech-support netflow** command in EXEC mode.

**show tech-support netflow** [**file** *send-to* [**background**] [**compressed**|**uncompressed**]] [**location** *node-id*] [**rack**]

## Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>rack</b>	(Optional) Displays the list of racks.

## Command Modes

EXEC

**Command History**

Release	Modification
Release 3.9.0	This command was introduced.

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates netflow debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL: [http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

Task ID	Operations
cisco-support	read

## show tech-support nrs

To automatically run **show** commands that display information specific to the name registration service (NRS) information, use the **show tech-support nrs** command in EXEC mode.

```
show tech-support nrs [file send-to [background| compressed| uncompressed]] terminal [page] [rack]
```

### Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>terminal</b>	Specifies that the command output is displayed on the terminal.
<b>page</b>	(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl+C</b> keys to stop the command output.
<b>rack</b>	(Optional) Displays the list of racks.

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced.

**Usage Guidelines** This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support nrs** command to collect data for the NRS. The NRS is a central registration authority and is used by the Replication Data Services (RDS) and the Event Notification Services (ENS). This command generates NRS debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL: [http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

Task ID	Task ID	Operations
	cisco-support	read

# show tech-support password

To automatically run **show** commands that display information to include the password in the output for debugging, use the **show tech-support password** command in EXEC mode.

**show tech-support password** [*file send-to* [**background**] [**compressed**|**uncompressed**]] [**location node-id**] [**terminal** [*page*]]

## Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>terminal</b>	Specifies that the command output is displayed on the terminal.
<b>page</b>	(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl+C</b> keys to stop the command output.

---

**location***node-id* (Optional) Specifies a node. The *node-id* argument is entered in the *rack/slot/module* notation.

---

**Command Modes**

EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

---

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates output to include the password for debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL: [http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

Task ID	Operations
basic-services	read

---

## show tech-support pfi

To automatically run **show** commands that display information specific to Packet Forwarding Infrastructure (PFI) debugging for all components, use the **show tech-support pfi** command in EXEC mode.

```
show tech-support pfi {file send-to [background|compressed|uncompressed]} terminal [page]| trace-only}
[location {node-id| all}]
```

### Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rep:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>terminal</b>	Specifies that the command output is displayed on the terminal.
<b>page</b>	(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl+C</b> keys to stop the command output.

<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>all</b>	Specifies all locations.
<b>trace-only</b>	Displays only trace information.

**Command Modes**

EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support pfi** command to collect information for the PFI, which consists of interface-related data with regards to netio and interface manager. This command generates output PFI debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:

[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

Task ID	Operations
basic-services	read
cisco-support	read

**show tech-support pfi**

# show tech-support placement

To automatically run **show** commands that display information specific to process placement, use the **show tech-support placement** command in EXEC mode.

```
show tech-support placement {terminal [page]| file send-to [background| compressed| uncompressed]}
```

## Syntax Description

<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>nvram:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced.

### Usage Guideline

#### Tip

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates process placement debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.



#### Note

This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL: [http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

Task ID	Task ID	Operations
	cisco-support	read
	sysmgr	read

### Examples

The following example shows some of the **show tech-support placement** command output that is displayed on the terminal:

```
RP/0/0/CPU0:router# show tech-support placement terminal page
-----
show tech-support placement
-----
----- run lrd_show -I -----
Success: node_count=6, ready=1
node=0x11, type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0, lr_0
node=0x41, type=1, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1, lr_f
node=0x42, type=1, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1, lr_f
node=0x61, type=2, memsize=256, cpus=1, speed=100, sw_state=6, red_state=0, lr_0
```

```
node=0x201, type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=1, lrl
node=0x211, type=0, memsize=256, cpus=1, speed=100, sw_state=6, red_state=2, lrl
```

```
----- show placement trace all -----
Oct 11 19:23:59.949 main bag_register_all_placed_mgmt_defs_bags rc = No er
Oct 11 19:23:59.980 main bag_register_all_placed_mgmt_bags rc = No error
Oct 11 19:24:06.420 main Checkpoint initialization succeeded
Oct 11 19:24:06.665 main Starting for the first time in this LR
Oct 11 19:24:06.725 nodes registered nodes bags, rc = 0 (No error)
Oct 11 19:24:06.728 nodes We are running on node 0/RP0/CPU0
Oct 11 19:24:06.734 nodes lrd_register_card_state ok
Oct 11 19:24:06.734 nodes Setting timer for 70 seconds, thread 1
Oct 11 19:24:06.748 nodes Successfully got inventory (attempt 1 of 30)
Oct 11 19:24:06.748 nodes Stopping timer
Oct 11 19:24:06.748 nodes LR inventory has 4 RP/DRP nodes
Oct 11 19:24:06.850 nodes update_node: nodeid 0/4/CPU0, pnodeid [NODEID_INV0
Oct 11 19:24:06.850 nodes Creating new node
Oct 11 19:24:06.877 nodes update_node: nodeid 0/4/CPU1, pnodeid [NODEID_INV0
Oct 11 19:24:06.877 nodes Creating new node
Oct 11 19:24:06.877 nodes update_node: nodeid 0/RP0/CPU0, pnodeid 0/RP1/CPU1
Oct 11 19:24:06.877 nodes Creating new node
Oct 11 19:24:06.877 nodes node::_get_active nodeid(Placed_node (482c1088)) (0
Oct 11 19:24:06.917 nodes update_node: nodeid 0/RP1/CPU0, pnodeid 0/RP0/CPU2
Oct 11 19:24:06.917 nodes Nodeid 0/RP1/CPU0 is already in node object Place)
Oct 11 19:24:06.917 nodes Information differs
Oct 11 19:24:06.917 nodes node 0/RP0/CPU0 is active
Oct 11 19:24:06.917 nodes node::_get_active nodeid(Placed_node (482c1088)) (0
Oct 11 19:24:06.917 nodes rescan_lrd_inventory rc = 0 (No error)
Oct 11 19:24:06.917 nodes apply_startup_type: no action required (0)
Oct 11 19:24:06.978 properties registered properties bags, rc = 0 (No error)
Oct 11 19:24:06.978 properties Inserting Nodetypeaffinity (48283504) (value 100)
Oct 11 19:24:06.985 edm placed_edm_init succeeded
Oct 11 19:24:07.086 properties Inserting Classaffinity (482827b8) (value 250.00g
Oct 11 19:24:07.086 properties Inserting Classaffinity (48282830) (value 250.00i
Oct 11 19:24:07.086 properties Inserting Classaffinity (4828286c) (value 250.00g
Oct 11 19:24:07.086 properties Inserting Classaffinity (482828a8) (value 250.00i
Oct 11 19:24:07.086 properties Inserting Selfaffinity (483297ac) (value -160.00)
Oct 11 19:24:07.086 properties Inserting Nodetypeaffinity (483297e0) (value -50)
Oct 11 19:24:07.086 properties Inserting Nodetypeaffinity (48329814) (value 50.)
Oct 11 19:24:07.086 properties Inserting Nodetypeaffinity (48329848) (value 600)
Oct 11 19:24:07.131 properties Inserting Classaffinity (482828e4) (value 70.00)i
Oct 11 19:24:07.131 properties Inserting Classaffinity (48282920) (value 70.00)i
Oct 11 19:24:07.131 properties Inserting Classaffinity (4828295c) (value 70.00)i
Oct 11 19:24:07.132 properties Inserting Classaffinity (4832b048) (value 70.00)i
Oct 11 19:24:07.132 properties Inserting Nodetypeaffinity (483298b0) (value -15)
Oct 11 19:24:07.132 properties Inserting Nodetypeaffinity (483298e4) (value 200)
Oct 11 19:24:07.132 properties Inserting Nodetypeaffinity (48329918) (value 600)
Oct 11 19:24:07.193 properties Inserting Nodetypeaffinity (4832994c) (value -20)
Oct 11 19:24:07.194 properties Inserting Nodetypeaffinity (4832b818) (value 250)
Oct 11 19:24:07.226 properties Inserting Nodetypeaffinity (4832b880) (value -402
Oct 11 19:24:07.275 properties Inserting Nodetypeaffinity (4832b8b4) (value -20)
Oct 11 19:24:07.275 properties Inserting Nodetypeaffinity (4832b8e8) (value 250)
Oct 11 19:24:07.350 properties Inserting Nodetypeaffinity (4832b950) (value -402
Oct 11 19:24:07.402 properties Inserting Nodetypeaffinity (4832b9b8) (value -40)
Oct 11 19:24:07.562 properties Inserting Nodetypeaffinity (4832baf0) (value 100)
```

## show tech-support pos

To automatically run **show** commands that display information specific to Packet over SONET /SDH (POS) debugging, use the **show tech-support pos** command in EXEC mode.

**show tech-support pos** {terminal [page]| file *send-to* [background] [compressed| uncompressed]} interface *type instance* [show-only] [trace-only] [location *node-id*] all] [rack]

### Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>sent-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rep:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>interface</b>	Collects information about a specific interface.
<i>type</i>	Interface type. For more information, use the question mark (?) online help function.

<i>instance</i>	<p>Either a physical interface instance or a virtual interface instance as follows:</p> <ul style="list-style-type: none"> <li>Physical interface instance. Naming notation is <i>rack/slot/module/port</i> and a slash between values is required as part of the notation. <ul style="list-style-type: none"> <li><i>rack</i>: Chassis number of the rack.</li> <li><i>slot</i>: Physical slot number of the modular services card or line card.</li> <li><i>module</i>: Module number. A physical layer interface module (PLIM) is always 0.</li> <li><i>port</i>: Physical port number of the interface.</li> </ul> </li> </ul> <p><b>Note</b> In references to a Management Ethernet interface located on a route processor card, the physical slot number is alphanumeric (RP0 or RP1) and the module is CPU0. Example: interface MgmtEth0/RP1/CPU0/0.</p> <ul style="list-style-type: none"> <li>Virtual interface instance. Number range varies depending on interface type.</li> </ul> <p>For more information about the syntax for the router, use the question mark (?) online help function.</p>
<b>show-only</b>	(Optional) Collects only show command information.
<b>terminal</b>	Specifies that the command output is displayed on the terminal.
<b>trace-only</b>	(Optional) Collects only trace information.
<b>location</b>	(Optional) Specifies a node.
<i>node-id</i>	(Optional). Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>all</b>	(Optional) Specifies all locations.
<b>rack</b>	(Optional) Displays the list of racks.
<b>page</b>	<p>(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).</p> <p>Press the <b>Ctrl+C</b> keys to stop the command output.</p>

**Command Modes**

EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

**Usage Guideline** **Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates POS debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

**Note**

This command is not required during normal use of the router.

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:

[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

Task ID	Operations
cisco-support	read

**Examples**

The following example shows some of the **show tech-support routing pos** command output that is displayed on the terminal:

```
RP/0/0/CPU0:router# show tech-support pos
-----
show tech-support pos
-----

----- show running-config -----
Building configuration...
!! Last configuration change at Wed Oct 10 20:05:13 2007
!
hostname Pl_CRS-8
line console
  exec-timeout 600 0
  session-timeout 600
!
line default
  exec-timeout 600 0
  session-timeout 600
!
clock timezone PST 8
clock summer-time DST recurring 2 sunday march 02:00 first sunday november 02:00
logging console informational
telnet vrf default ipv4 server max-servers no-limit
domain ipv4 host p1 172.29.52.72
domain ipv4 host p2 172.29.52.77
domain ipv4 host ce6 172.29.52.73
```



```
    ipv4 address 10.1.1.1 255.255.255.255
    !
interface MgmtEth0/4/CPU0/0
  description Connected to Lab LAN
  ipv4 address 172.29.52.46 255.255.255.0
  !
interface MgmtEth0/4/CPU1/0
  description Connected to Lab LAN
  ipv4 address 172.29.52.47 255.255.255.0
  !
interface MgmtEth0/RP0/CPU0/0
  description Connected to Lab LAN
  ipv4 address 172.29.52.70 255.255.255.0
  !
```

## show tech-support ppp

To automatically run **show** commands that display information specific to Point to Point Protocol (PPP) debugging, use the **show tech-support ppp** command in EXEC mode.

**show tech-support ppp** [**file send-to**] [**background**] [**compressed**|**uncompressed**] [**interface type instance**] [**location node-id**] **all**] [**rack**]

### Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>nvram:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>interface</b>	Collects information about a specific interface.
<i>type</i>	Interface type. For more information, use the question mark (?) online help function.

<i>instance</i>	<p>Either a physical interface instance or a virtual interface instance as follows:</p> <ul style="list-style-type: none"> <li>• Physical interface instance. Naming notation is <i>rack/slot/module/port</i> and a slash between values is required as part of the notation. <ul style="list-style-type: none"> <li>◦ <i>rack</i>: Chassis number of the rack.</li> <li>◦ <i>slot</i>: Physical slot number of the modular services card or line card.</li> <li>◦ <i>module</i>: Module number. A physical layer interface module (PLIM) is always 0.</li> <li>◦ <i>port</i>: Physical port number of the interface.</li> </ul> </li> </ul> <p><b>Note</b> In references to a Management Ethernet interface located on a route processor card, the physical slot number is alphanumeric (RP0 or RP1) and the module is CPU0. Example: interface MgmtEth0/RP1/CPU0/0.</p> <ul style="list-style-type: none"> <li>• Virtual interface instance. Number range varies depending on interface type.</li> </ul> <p>For more information about the syntax for the router, use the question mark (?) online help function.</p>
-----------------	---

<b>location</b>	(Optional) Specifies a node.
<i>node-id</i>	(Optional). Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>all</b>	(Optional) Specifies all locations.
<b>rack</b>	(Optional) Displays the list of racks.

**Command Modes** EXEC

#### Command History

Release	Modification
Release 3.9.0	This command was introduced.

#### Usage Guideline

##### Tip

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates PPP debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See Obtaining Documentation and Submitting a Service Request section on page iii in the Preface for Cisco Technical Support contact information.



**Note** This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

Task ID	Operations
cisco-support	read

**Examples**

The following example shows some of the **show tech-support routing ppp** command output that is displayed on the terminal:

```
RP/0/0/CPU0:router# show tech-support ppp
```

```
-----  

show tech-support ppp  

-----
```

```
----- show running-config -----  

Building configuration..  

!! Last configuration change at Wed Oct 10 20:05:13 2007  

!  

hostname P1_CRS-8  

line console  

  exec-timeout 600 0  

  session-timeout 600  

!  

line default  

  exec-timeout 600 0  

  session-timeout 600
```

## show tech-support qos

To automatically run **show** commands that display platform independent Quality of Service (QoS) debugging information, use the **show tech-support qos** command in EXEC mode.

**show tech-support qos pi** [**file send-to**] [**background**] [**compressed**|**uncompressed**] [**location node-id**|**all**] [**rack**]

### Syntax Description

<b>pi</b>	Collects platform independent QOS related information and saves to disk.
<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>location</b>	(Optional) Specifies a node.
<i>node-id</i>	Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>rack</b>	(Optional) Displays the list of racks.

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.9.0	This command was introduced.

**Usage Guidelines** This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates QoS debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

Task ID	Task ID	Operations
	basic-services	read
	cisco-support	read

## show tech-support rdsfs

To automatically run **show** commands that display information specific to Replication Data Services File System (RDSFS) debugging, use the **show tech-support rdsfs** command in EXEC mode.

**show tech-support rdsfs** {**terminal** [**page**]} **file** *send-to* [**background**] [**compressed**|**uncompressed**] [**rack**]

### Syntax Description

<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>rack</b>	(Optional) Displays the list of racks.

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced.

**Usage Guidelines** This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.



**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support rdsfs** command to run **show** commands that display information specific to RDSFS debugging and is relevant to bring to a ready state. This command generates RDSFS debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.



**Note**

This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL: [http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

Task ID	Task ID	Operations
	cisco-support	read

**Examples** The following example shows how to run **show tech-support rdsfs** command:

```
RP/0/0/CPU0:router# show tech-support rdsfs
```

## show tech-support rib

To automatically run **show** commands that display information specific to Routing Information Base (RIB) debugging, use the **show tech-support rib** command in EXEC mode.

```
show tech-support rib {terminal [page]| file send-to [background] [compressed| uncompressed]} [ipv4| ipv6]
```

### Syntax Description

<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>ipv4</b>	(Optional) Displays the IPv4 command output.

---

**ipv6** (Optional) Displays the IPv6 command output.

---

**Command Modes**

EXEC

**Command History****Release****Modification**

Release 3.2

This command was introduced.

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

The RIB data stores the best path information for the routing protocol that is sent to FIB to help build the data structures. This command generates RIB debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL: [http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID****Task ID****Operations**

cisco-support

read

# show tech-support routing bfd

To automatically run **show** commands that display information specific to Bidirectional Forwarding Detection (BFD) debugging, use the **show tech-support routing bfd** command in EXEC mode.

```
show tech-support routing bfd {terminal [page]| file send-to [background] [compressed| uncompressed]
[rack]}
```

## Syntax Description

<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	(Optional) Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.

---

<b>rack</b>	(Optional) Displays the list of racks.
-------------	--

---

**Command Default** The command output is not compressed.

**Command Modes** EXEC

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 3.2	This command was introduced.

---

**Usage Guidelines** This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.



**Tip** This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support routing bfd** command to run **show** commands that display information specific to BFD debugging. This command generates BFD debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.



**Note** This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support routing bfd** command:

- **show bfd session**
- **show bfd**
- **show memory heap fail all**
- **show memory summary location all**
- **show process blocked location all**
- **show adjacency**
- **show bfd location**

- **show bfd session detail location** *node-id*
- **show bfd session agent detail location**
- **show bfd timer-groups location***node-id*
- **show bfd index-mgrs location** *node-id*
- **show bfd session-array location** *node-id*
- **show bfd interfaces location** *node-id*
- **show bfd bundles detail location** *node-id*
- **show bfd counters packet invalid** location *node-id*
- **show bfd counters packet private location** *node-id*
- **show bfd client private**
- **show bfd trace all-cards**
- **show controllers cpuctrl summary**
- **show controllers cpuctrl client pdma bfd active location all**
- **show controllers cpuctrl ports ingressq pdma all active location** *node-id*
- **show controllers cpuctrl ports egressq pdma all active location** *node-id*
- **show controllers pse statistics location** *node-id*

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

<b>Task ID</b>	<b>Operations</b>
basic-services	read

## show tech-support routing isis

To automatically run **show** commands that display information specific to Intermediate System-to-Intermediate System (IS-IS) debugging, use the **show tech-support routing isis** command in EXEC mode.

```
show tech-support routing isis {terminal [page]| file send-to [background] [compressed|uncompressed]}
```

### Syntax Description

<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.

**Command Default** The command output is not compressed.

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.2	This command was introduced.

### Usage Guideline

#### Tip

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support isis** command to run **show** commands that display information specific to IS-IS debugging. This command generates IS-IS debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.



#### Note

This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support routing isis** command:

- show isis trace all location all
- **show isis all**
- **show clns statistics**
- **show imds interface all**
- **show ipv4 int brief**
- **show ipv6 int brief**
- **show route ipv4**
- **show route ipv6**
- **show inst which comp clns-isis**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

Task ID	Operations
basic-services	read

**Examples**

The following example shows some of the **show tech-support routing isis** command output:

```
RP/0/0/CPU0:router# show tech-support isis terminal page
```

```
-----
show tech-support isis
-----

----- show isis instance isp trace all -----
184 wrapping entries (6144 possible, 0 filtered, 184 total)
Mar 29 08:38:18.437 isis/isp/sev 0/RP0/CPU0 t1 STARTUP_START
Mar 29 08:38:18.437 isis/isp/sev 0/RP0/CPU0 t1 STARTUP_MODULE
Mar 29 08:38:18.438 isis/isp/sev 0/RP0/CPU0 t1 STARTUP_MODULE
Mar 29 08:38:18.438 isis/isp/sev 0/RP0/CPU0 t1 THREAD_CREATING
Mar 29 08:38:18.451 isis/isp/det 0/RP0/CPU0 t1 THREAD_THREAD_ID
Mar 29 08:38:18.451 isis/isp/sev 0/RP0/CPU0 t1 THREAD_CREATING
Mar 29 08:38:18.451 isis/isp/sev 0/RP0/CPU0 t1 THREAD_CREATING
Mar 29 08:38:18.452 isis/isp/sev 0/RP0/CPU0 t1 THREAD_CREATING
Mar 29 08:38:18.452 isis/isp/sev 0/RP0/CPU0 t1 THREAD_CREATING
Mar 29 08:38:18.536 isis/isp/sev 0/RP0/CPU0 t1 STARTUP_MODULE
Mar 29 08:38:19.274 isis/isp/sev 0/RP0/CPU0 t1 STARTUP_MODULE
Mar 29 08:38:19.470 isis/isp/sev 0/RP0/CPU0 t1 IO_PAK_SERVER_CONNECTED
Mar 29 08:38:19.551 isis/isp/det 0/RP0/CPU0 t1 IO_SOCKET_CREATE_SUCCESS
Mar 29 08:38:19.555 isis/isp/sev 0/RP0/CPU0 t1 IO_SOCKET_CONN_OPEN
Mar 29 08:38:20.561 isis/isp/std 0/RP0/CPU0 t1 ROUTE_RIB_PURGE_TIME_SET
.
.
Mar 29 08:38:27.622 isis/isp/det 0/RP0/CPU0 t4 THREAD_FOP_PROCESS
Mar 29 08:38:27.622 isis/isp/det 0/RP0/CPU0 t4 SSM_TICK_TIMER FIRES CR-SYNC-LSPDB
Mar 29 08:38:27.622 isis/isp/det 0/RP0/CPU0 t4 SSM_STATE_RESULT CR-SYNC-LSPDB
Mar 29 08:38:27.622 isis/isp/det 0/RP0/CPU0 t4 SSM_STATE_TIME_BUDGET CR-SYNC-LSPDB
Mar 29 08:38:27.622 isis/isp/sev 0/RP0/CPU0 t4 SSM_STATE_RUN CR-SYNC-LSPDB

----- show isis all -----

No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp levels found
No IS-IS isp IPv4 Unicast levels found
No IS-IS isp IPv4 Unicast levels found
No IS-IS isp IPv4 Unicast levels found
No IS-IS isp IPv4 Unicast levels found
No IS-IS isp IPv4 Unicast levels found
IS-IS Router: isp
System Id: 0000.0000.0000 (Not configured, protocol disabled)
IS Levels: level-1-2
Manual area address(es):
Routing for area address(es):
Non-stop forwarding: Disabled
Most recent startup mode: Cold Restart
```

## show tech-support routing isis

```

Topologies supported by IS-IS:
  IPv4 Unicast
    No protocols redistributed
    Distance: 115
Interfaces supported by IS-IS:
  POS0/1/0/0 is disabled (active in configuration)

No IS-IS isp host data available

IS-IS isp Interfaces
POS0/1/0/0                Disabled (No NET configured)

IS-IS isp Interfaces
  Interface      All      Adjs      Adj Topos  Adv Topos  CLNS  MTU      Prio
                OK       L1  L2      Run/Cfg    Run/Cfg  -----  -----  L1  L2
  -----
PO0/1/0/0        No

No IS-IS isp mesh-groups found

IS-IS isp statistics:
IS-IS statistics:
  Fast PSNP cache (hits/tries): 0/0
  LSP checksum errors received: 0
  LSP Dropped: 0
  SNP Dropped: 0
  UPD Max Queue size: 0

IS-IS isp neighbor summary:
State      L1      L2      L1L2
Up          0        0        0
Init        0        0        0
Failed      0        0        0

IS-IS isp neighbors:
System Id   Interface      SNPA          State Holdtime Type IETF-NSF

IS-IS isp Database Summary for all LSPs
                Active      Purged      All
                L1  L2  Total  L1  L2  Total  L1  L2  Total
  -----
Fragment 0 Counts
  Router LSPs:    0    0    0    0    0    0    0    0    0
  Pseudo-node LSPs: 0    0    0    0    0    0    0    0    0
  All LSPs:      0    0    0    0    0    0    0    0    0

All Fragment Counts
  Router LSPs:    0    0    0    0    0    0    0    0    0
  Pseudo-node LSPs: 0    0    0    0    0    0    0    0    0
  All LSPs:      0    0    0    0    0    0    0    0    0

IS-IS isp IS Topology Summary IPv4 Unicast
                L1          L2
                Reach UnReach Total  Reach UnReach Total
  -----
Router nodes:    0    0    0    0    0    0
Pseudo nodes:   0    0    0    0    0    0

Total nodes:    0    0    0    0    0    0

IS-IS isp IPv4 Unicast routes

Codes: L1 - level 1, L2 - level 2, ia - interarea (leaked into level 1)
df - level 1 default (closest attached router), su - summary null
C - connected, S - static, R - RIP, B - BGP, O - OSPF
i - IS-IS (redistributed from another instance)

Maximum parallel path count: 8

IS-IS isp checkpoint interface
Interface      Handle      CircNum  DIS Areas  Adj  Chkpt ID
No 'checkpoint interfaces' found in IS-IS isp

```

```
IS-IS isp checkpoint adjacencies
System ID      Interface      SNPA          Lvl  Hold Pri  CID  Chkpt ID Nexthops
No 'checkpoint adjacencies' found in IS-IS isp
```

```
IS-IS isp checkpoint LSPs
Level  LSPID          Chkpt ID
No 'checkpoint LSPs' found in IS-IS isp
```

```
Total LSP count: 0 (L1: 0, L2 0, local L1: 0, local L2 0)
```

```
----- show clns statistics -----
```

```
CLNS Statistics:
```

```
Last counter clear:          1067929 seconds ago
Total number of packets sent: 0
Total number of packets received: 0
Send packets dropped, total: 0
Send packets dropped, buffer overflow: 0
Send packets dropped, out of memory: 0
Send packets dropped, netio: 0
Send packets dropped, other: 0
Receive socket max queue size: 0
Receive packets dropped, total: 0
Receive packets dropped, other: 0
Receive packets dropped per pdu class:
```

Class	Overflow/Max	Rate Limit/Max
IIH	0/0	0/0
LSP	0/0	0/0
SNP	0/0	0/0
OTHER	0/0	0/0
Total	0	0

```
----- show imds interface all -----
```

```
IMDS INTERFACE DATA (Node 0x201)
```

```
MgmtEth0_RP0_CPU0_0 (0x00080000)
```

```
-----
flags: 0x0001002f      type: 8 (IFT_ETHERNET)      encap: 30 (ether)
state: 3 (up)         mtu: 1514      protocol count: 4
control parent: 0x00000000      data parent: 0x00000000
      protocol      capsulation      state      mtu
```

```
-----
7 (arp)
```

## show tech-support routing ospf

To automatically run **show** commands that display information specific to Open Shortest Path First (OSPF) debugging, use the **show tech-support routing ospf** command in EXEC mode.

**show tech-support routing ospf** [*process-id*] [**no-trace**] [**active**|**standby**] {**terminal** [**page**] | **file send-to** [**background**] [**compressed**|**uncompressed**]}

### Syntax Description

<i>process-id</i>	(Optional) Name of the OSPF process.
<b>no-trace</b>	(Optional) Excludes trace information from the command output.
<b>active</b>	(Optional) Displays information from active route processor only.
<b>standby</b>	(Optional) Displays information from standby route processor only.
<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks). Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	Specifies that the command output is saved to a specified file.

---

*sent-to* Name of the file. The following valid options are listed:

- *filename*
- **bootflash:** *filename*
- **compactflash:** *filename*
- **disk0:** *filename*
- **disk1:** *filename*
- **flash:** *filename*
- **ftp:** *filename*
- **harddisk:** *filename*
- **harddiska:** *filename*
- **nvr:** *filename*
- **rcp:** *filename*
- **slot0:** *filename*
- **slot1:** *filename*
- **tftp:** *filename*

---

<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.

---

**Command Default** The command output is not compressed.

**Command Modes** EXEC

**Command History**

---

<b>Release</b>	<b>Modification</b>
Release 3.2	This command was introduced.

---

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support routing ospf** command to run **show** commands that display information specific to OSPF debugging. This command generates OSPF debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support routing ospf** command:

- show ospf
- **show ospf vrf all**
- **show ospf summary**
- **show ospf vrf all summary**
- **show ospf interface**
- **show ospf vrf all interface**
- **show ospf virtual-links**
- **show ospf vrf all virtual-links**
- **show ospf neighbor detail**
- **show ospf vrf all neighbor detail**
- **show ospf database database-summary**
- **show ospf vrf all database database-summary**
- **show ospf database router self-originate**
- **show ospf vrf all database router self-originate**
- **show ospf statistics prot**
- **show ospf statistics raw-io**
- **show ospf statistics te**
- **show ospf statistics spf**
- **show ospf statistics rib-thread**
- **show ospf statistics rib-batch**
- **show ospf message-queue**
- **show ospf border-routers**

- **show ospf vrf all border-routers**
- **show ospf retransmission-list**
- **show ospf vrf all retransmission-list**
- **show ospf request-list**
- **show ospf vrf all request-list**
- **show ospf flood-list**
- **show ospf vrf all flood-list**
- **show ospf maxage-list**
- **show ospf vrf all maxage-list**
- **show ospf bad-checksum**
- **show ospf vrf all bad-checksum**
- **show ospf standby**
- **show ospf vrf all standby**
- **show ip interface brief**
- **show route ipv4 summary**
- **show route vrf all ipv4 summary**
- **show ospf trace all**
- **show logging process ospf**

**Note**

- If you do not specify any options, all information is collected by default.
- Active and standby options are exclusive and only one of them can be used. When neither active or standby is used, the information is collected from both RPs.
- The **no-trace** option can be used with or without specifying the **active** or **standby** options.
- When **standby** option is specified, only ospf- related information from the standby RP is included in the output. The common non-ospf information such as version, placement info, logging and so on are not included.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL: [http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

<b>Task ID</b>	<b>Operations</b>
basic-services	read

## show tech-support routing ospfv3

To automatically run **show** commands that display information specific to Open Shortest Path First Version 3 (OSPFv3) debugging, use the **show tech-support routing ospfv3** command in EXEC mode.

```
show tech-support routing ospfv3 [ instance ] [detail] {terminal [page]| file send-to [background]
[compressed| uncompressed]}
```

### Syntax Description

<i>instance</i>	(Optional) Name of the OSPFv3 instance.
<b>detail</b>	(Optional) Displays all available OSPFv3 information.
<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	Specifies that the command output is saved to a specified file.
<i>sent-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.

<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.

**Command Default** The command output is not compressed.

**Command Modes** EXEC

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 3.3.0	This command was introduced.

**Usage Guidelines** This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.



**Tip** This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support routing ospfv3** command to run **show** commands that display information specific to OSPFv3 debugging. This command generates OSPFv3 debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.



**Note** This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support routing ospfv3** command:

- **show version**
- **show run router ospfv3**
- **show route ipv6 ospf**
- **show ospfv3**
- **show ospfv3 interface**
- **show ospfv3 virtual-links**

- **show ospfv3 neighbor**
- **show ospfv3 message-queue**
- **show ospfv3 request-list**
- **show ospfv3 retransmission-list**
- **show ospfv3 flood-list**
- **show ospfv3 border-routers**
- **show ospfv3 database database-summary**
- **show ospfv3 database**
- **show ospfv3 route**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

<b>Task ID</b>	<b>Operations</b>
basic-services	read

## show tech-support routing rpl

To automatically run **show** commands that display information specific to Routing Policy Language (RPL) debugging, use the **show tech-support routing rpl** command in EXEC mode.

```
show tech-support routing rpl {file send-to [background] [compressed|uncompressed]} terminal [page]
```

### Syntax Description

<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.

**Command Default** The command output is not compressed.

**Command Modes** EXEC

Release	Modification
Release 3.5.0	This command was introduced.

**Usage Guidelines** This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support routing rpl** command to run **show** commands that display information specific to RPL debugging. This command generates RPL debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

The following **show** commands run automatically when you run the **show tech-support routing rpl** command:

- **show running-config rpl**
- **show process policy\_repository**
- **show rpl route-policy *policy-name* pxl**
- **show sysdb reg notif path /ipc/gl/policy\_lang/policies/routing/ *policy-name* /pxl s**

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL: [http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

<b>Task ID</b>	<b>Task ID</b>	<b>Operations</b>
	basic-services	read

# show tech-support serial

To automatically run **show** commands that display information specific to serial debugging, use the **show tech-support serial** command in EXEC mode.

```
show tech-support serial {terminal [page]| file send-to [background] [compressed| uncompressed]}
[interface type instance] [show-only] [trace-only] [location node-id] all
```

## Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>interface</b>	(Optional) Collects information about a specific interface.
<i>type</i>	Interface type. For more information, use the question mark (?) online help function.

<i>instance</i>	<p>Either a physical interface instance or a virtual interface instance as follows:</p> <ul style="list-style-type: none"> <li>• Physical interface instance. Naming notation is <i>rack/slot/module/port</i> and a slash between values is required as part of the notation. <ul style="list-style-type: none"> <li>◦ <i>rack</i>: Chassis number of the rack.</li> <li>◦ <i>slot</i>: Physical slot number of the modular services card or line card.</li> <li>◦ <i>module</i>: Module number. A physical layer interface module (PLIM) is always 0.</li> <li>◦ <i>port</i>: Physical port number of the interface.</li> </ul> </li> </ul> <p><b>Note</b> In references to a Management Ethernet interface located on a route processor card, the physical slot number is alphanumeric (RP0 or RP1) and the module is CPU0. Example: interface MgmtEth0/RP1/CPU0/0.</p> <ul style="list-style-type: none"> <li>• Virtual interface instance. Number range varies depending on interface type.</li> </ul> <p>For more information about the syntax for the router, use the question mark (?) online help function.</p>
<b>show-only</b>	(Optional) Collects only show command information.
<b>terminal</b>	Specifies that the command output is displayed on the terminal.
<b>trace-only</b>	(Optional) Collects only trace information.
<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>all</b>	(Optional) Specifies all locations.
<b>page</b>	<p>(Optional) Specifies that the command output is displayed one page at a time. Use the return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).</p> <p>Press the <b>Ctrl+C</b> keys to stop the command output.</p>

**Command Modes**

EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support serial** command for serial-related data, such as T1/E1. This command generates serial debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

Task ID	Operations
cisco-support	read

# show tech-support sanitized

To automatically run **show** commands that display information specific to sanitized configuration output, use the **show tech-support sanitized** command in EXEC mode.

```
show tech-support sanitized {terminal [page]| file send-to [background] [compressed| uncompressed]}
[location node-id] all] [rack]
```

## Syntax Description

<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.

<b>location</b>	(Optional) Specifies a node.
<i>node-id</i>	(Optional). Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>all</b>	(Optional) Specifies all locations.
<b>rack</b>	(Optional) Displays the list of racks.

**Command Modes**

EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

**Usage Guideline** **Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates sanitized configuration output for debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

**Note**

This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

Task ID	Operations
basic-services	read

**Examples**

The following example shows some of the **show tech-support sanitized** command output that is displayed on the terminal:

```
RP/0/0/CPU0:router# show tech-support sanitized terminal page
```

-----

```
show tech-support
```

```
-----
----- show running-config (sanitized) -----
Building configuration...
!! Last configuration change at Wed Oct 10 20:05:13 2007 by <removed>
!
hostname <removed>
line console
  exec-timeout 600 0
  session-timeout 600
!
line default
  exec-timeout 600 0
  session-timeout 600
!
clock timezone <removed> 8
clock summer-time <removed> recurring 2 sunday march 02:00 first sunday november0
logging console informational
telnet vrf <removed> ipv4 server max-servers no-limit
domain ipv4 host <removed> 10.0.0.1
domain ipv4 host <removed> 10.0.0.2
domain ipv4 host <removed> 10.0.0.3
domain ipv4 host <removed> 10.0.0.4
domain ipv4 host <removed> 10.0.0.5
domain ipv4 host <removed> 10.0.0.6
domain ipv4 host <removed> 10.0.0.7
domain ipv4 host <removed> 10.0.0.8
domain ipv4 host <removed> 10.0.0.9
domain ipv4 host <removed> 10.0.0.10
domain ipv4 host <removed> 10.0.0.11
domain ipv4 host <removed> 10.0.0.12
domain ipv4 host <removed> 10.0.0.13
domain ipv4 host <removed> 10.0.0.14
domain lookup disable
username <removed>
  password 7 <removed>
!
aps group 1
  revert 1
  channel 0 local SONET0/1/4/3
  channel 1 local SONET0/1/4/2
!
vty-pool default 0 25
alias <removed> <removed>
alias <removed> <removed>
alias <removed> <removed>
alias <removed> <removed>
alias <removed> <removed>
alias <removed> <removed>
alias <removed> <removed>
alias <removed> <removed>
alias <removed> <removed>
alias <removed> <removed>
alias <removed> <removed>
alias <removed> <removed>
alias <removed> <removed>
alias <removed> <removed>
alias <removed> <removed>
alias <removed> <removed>
control-plane
  management-plane
    inband
      interface all
        allow all
      !
    !
  !
!
ipv4 virtual address 10.0.0.14 255.0.0.0
hw-module service sbc location 0/4/CPU0
hw-module service sbc location 0/4/CPU1
```

```

interface Bundle-Ether28
description <removed>
ipv4 address 10.0.0.14 255.0.0.0
bundle minimum-active links 1
bundle minimum-active bandwidth 1000000
!
interface Bundle-Ether28.1
description <removed>
ipv4 address 10.0.0.14 255.0.0.0
encapsulation dot1q 29
!
interface Bundle-Ether28.2
description <removed>
ipv4 address 10.0.0.14 255.0.0.0
encapsulation dot1q 30
!
interface Bundle-Ether28.3
description <removed>
ipv4 address 10.0.0.14 255.0.0.0
encapsulation dot1q 31
!
interface Bundle-POS24
description <removed>
ipv4 address 10.0.0.14 255.0.0.0
bundle minimum-active links 1
bundle minimum-active bandwidth 2488320
!
interface Loopback0
ipv4 address 10.0.0.14 255.0.0.0
!
interface MgmtEth0/4/CPU0/0
description <removed>
ipv4 address 10.0.0.14 255.0.0.0
!
interface MgmtEth0/4/CPU1/0
description <removed>
ipv4 address 10.0.0.14 255.0.0.0
!
interface MgmtEth0/RP0/CPU0/0
description <removed>
ipv4 address 10.0.0.14 255.0.0.0
!
interface MgmtEth0/RP1/CPU0/0
description <removed>
ipv4 address 10.0.0.14 255.0.0.0
!
interface GigabitEthernet0/1/5/0
description <removed>
ipv4 address 10.0.0.14 255.0.0.0
!
interface GigabitEthernet0/1/5/1
description <removed>
ipv4 address 10.0.0.14 255.0.0.0
!
interface GigabitEthernet0/1/5/2
description <removed>
ipv4 address 10.0.0.14 255.0.0.0
!
interface GigabitEthernet0/1/5/3
shutdown
!
interface GigabitEthernet0/1/5/4
shutdown
!
interface GigabitEthernet0/1/5/5
shutdown
!
interface GigabitEthernet0/1/5/6
description <removed>
bundle id 28 mode active
!
interface GigabitEthernet0/1/5/7
description <removed>

```

```
    bundle id 28 mode active
!
interface GigabitEthernet0/6/5/0
 shutdown
!
interface GigabitEthernet0/6/5/1
 description <removed>
 ipv4 address 10.0.0.14 255.0.0.0
!
interface GigabitEthernet0/6/5/2
 description <removed>
 ipv4 address 10.0.0.14 255.0.0.0
!
interface GigabitEthernet0/6/5/3
 shutdown
!
interface GigabitEthernet0/6/5/4
 shutdown
!
interface GigabitEthernet0/6/5/5
 shutdown
!
interface GigabitEthernet0/6/5/6
 shutdown
!
interface GigabitEthernet0/6/5/7
 description <removed>
 ipv4 address 10.0.0.14 255.0.0.0
!
interface POS0/1/0/0
 shutdown
!
interface POS0/1/0/1
 description <removed>
 ipv4 address 10.0.0.14 255.0.0.0
!
interface POS0/1/0/2
 shutdown
!
interface POS0/1/0/3
 shutdown
!
interface POS0/1/4/0
 description <removed>
 bundle id 24 mode active
!
interface POS0/1/4/1
 description <removed>
 bundle id 24 mode active
!
interface POS0/1/4/2
 description <removed>
 ipv4 address 10.0.0.14 255.0.0.0
 encapsulation ppp
 ppp pap sent-username <removed> password encrypted <removed>
 ppp authentication chap pap
 ppp chap password encrypted <removed>
!
interface POS0/1/4/3
 description <removed>
 ipv4 address 10.0.0.14 255.0.0.0
 encapsulation ppp
 ppp pap sent-username <removed> password encrypted <removed>
 ppp authentication chap pap
 ppp chap password encrypted <removed>
!
interface POS0/6/0/0
 description <removed>
 ipv4 address 10.0.0.14 255.0.0.0
!
interface POS0/6/0/1
 description <removed>
 ipv4 address 10.0.0.14 255.0.0.0
```

```
!  
interface POS0/6/0/2  
  shutdown  
!  
interface POS0/6/0/3  
  description <removed>  
  ipv4 address 10.0.0.14 255.0.0.0  
!  
interface POS0/6/4/0
```

## show tech-support services

To automatically run **show** commands that display information specific to tech-support information that relates to services, use the **show tech-support services** command in EXEC mode.

**show tech-support services diversion** {**terminal** [**page**] | **file** *send-to* [**background**] [**compressed**] | **uncompressed**]} [**location** *node-id*] **all**

### Syntax Description

<b>diversion</b>	Collects information about packet diversion.
<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.

<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>location</b> <i>node-id</i>	Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>all</b>	(Optional) Specifies all locations.

**Command Modes**

EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support services** command to run **show** commands that display information specific to the services diversion infrastructure, which is used with the service blade offerings for the Cisco IOS XR platforms. This command generates tech-support information that relates to services debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

Task ID	Operations
cisco-support	read

## show tech-support snmp

To automatically run **show** commands that display information specific to tech-support information related to Simple Network Management Protocol (SNMP) agent, use the **show tech-support snmp** command in EXEC mode.

```
show tech-support snmp [entitymib| ifmib] [rack] [location node-id] all file send-to
```

### Syntax Description

<b>entitymib</b>	(Optional) Displays the entitymib debugging information.
<b>ifmib</b>	(Optional) Displays the ifmib debugging information.
<b>rack</b>	(Optional) Displays the list of racks.
<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>compactflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>flash:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>slot0:</b> <i>filename</i></li> <li>• <b>slot1:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

---

**all** (Optional) Specifies all locations.

---

**Command Modes**

EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

---

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**


---

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

---

**Note**


---

This command is not required during normal use of the router.

---

See the Cisco IOS XR Software command references for information about these commands and descriptions of their command output. The Cisco IOS XR Software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

Task ID	Operations
basic-services	read
cisco-support	read

---

## show tech-support spaipc

To automatically run **show** commands that display information specific to SPA Inter Process Communication (SPAIPC) debugging, use the **show tech-support spaipc** command in EXEC mode

```
show tech-support spaipc {terminal [page]| file send-to [background] [compressed| uncompressed]}
[interface type interface-path-id] [show-only] [trace-only] [location node-id] all
```

### Syntax Description

<b>file</b>	Specifies that the command output is saved to a specified file.
<i>send-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>interface</b>	(Optional) Collects information about a specific interface.
<i>type</i>	Interface type. For more information, use the question mark (?) online help function.

<i>interface-path-id</i>	Physical interface or virtual interface. <b>Note</b> Use the <b>show interfaces</b> command to see a list of all interfaces currently configured on the router. For more information about the syntax for the router, use the question mark ( ? ) online help function.
<b>show-only</b>	(Optional) Collects only show command information.
<b>terminal</b>	Displays the command output on the terminal.
<b>trace-only</b>	(Optional) Collects only trace information.
<b>location</b>	(Optional) Specifies a node.
<i>node-id</i>	(Optional). Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>all</b>	(Optional) Specifies all locations.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.

**Command Modes**

EXEC

**Command History**

Release	Modification
Release 2.0	This command was introduced.

**Usage Guideline** **Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates SPAIPC debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.

**Note**

This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:  
[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

Task ID	Operations
cisco-support	read

**Examples**

The following example shows how to run the **show tech-support spaipc** command:

```
RP/0/0/CPU0:router# show tech-support spaipc terminal page
-----
                        show tech-support spaipc
-----

----- show running-config -----
Building configuration...
!! Last configuration change at Wed Oct 10 20:05:13 2007
!
hostname P1_CRS-8
line console
  exec-timeout 600 0
  session-timeout 600
!
line default
  exec-timeout 600 0
  session-timeout 600
!
clock timezone PST 8
clock summer-time DST recurring 2 sunday march 02:00 first sunday november 02:00
logging console informational
telnet vrf default ipv4 server max-servers no-limit
domain ipv4 host p1 172.29.52.72
domain ipv4 host p2 172.29.52.77
domain ipv4 host ce6 172.29.52.73
domain ipv4 host ce7 172.29.52.78
domain ipv4 host p11 172.29.52.83
domain ipv4 host pe6 172.29.52.128
domain ipv4 host pe7 172.29.52.182
domain ipv4 host ce25 172.29.52.85
domain ipv4 host ce28 172.29.52.1
domain ipv4 host ce29 172.29.52.178
domain ipv4 host pe21 172.29.52.163
domain ipv4 host pe22 172.29.52.219
domain ipv4 host ce28_nme 172.29.52.177
domain ipv4 host ce29_nme 172.29.52.179
domain lookup disable
username P2_CRS-8
  password 7^13061E010803
!
aps group 1
  revert 1
  channel 0 local SONETO/1/4/3
  channel 1 local SONETO/1/4/2
!
vty-pool default 0 25
alias cr copy run disk0:/usr/P1_base_config
alias sa show alias
alias sc show config commit list
alias sd show diag
alias si show ip int brief
```



```
interface GigabitEthernet0/1/5/2
  description Connected to PE6_C12406 GE 0/4/0/1
  ipv4 address 10.16.4.1 255.255.255.0
!
interface GigabitEthernet0/1/5/3
  shutdown
!
interface GigabitEthernet0/1/5/4
  shutdown
!
interface GigabitEthernet0/1/5/5
```

# show tech-support sysdb

To automatically run **show** commands that display information specific to the System Database (SysDB), use the **show tech-support sysdb** command in EXEC mode.

```
show tech-support sysdb {terminal [page]| file send-to [background] [compressed| uncompressed]}
[shared-plane| rack] [location node-id]
```

## Syntax Description

<b>terminal</b>	Displays the command output on the terminal.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.
<b>file</b>	Specifies that the command output is saved to a specified file.
<i>sent-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>shared-plane</b>	(Optional) Displays the data for the shared plane.

<b>rack</b>	(Optional) Displays the list of racks.
<b>location</b>	(Optional) Specifies a node.
<i>node-id</i>	(Optional). Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

**Command Modes**

EXEC

**Command History**

Release	Modification
Release 3.2	This command was introduced.

**Usage Guidelines**

This command generates tech-support information that is useful for Cisco Technical Support representatives when troubleshooting a router. By default, the output of this command is saved on the router's hard disk in a file with *.tgz* extension. You can share this file with Cisco Technical Support. To share, use the **copy** command to copy the *.tgz* file to a server or local machine. For example, **copy harddisk:/showtech/name.tgz tftp://server\_path**.

For Cisco Technical Support contact information, see the 'Obtaining Documentation and Submitting a Service Request' section in the Preface.

**Tip**

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

The SysDB is the memory database that is used to store configuration and statistical data with some IPC data. This command generates SysDB information that relates to debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router.

**Note**

This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

Task ID	Operations
cisco-support	read

# show tech-support terminal

To automatically run **show** commands that display information specific to the terminal, use the **show tech-support terminal** command in EXEC mode.

**show tech-support terminal** [**location** {*node-id*} **all**] | **page**]

## Syntax Description

<b>location</b>	(Optional) Specifies a node.
<i>node-id</i>	(Optional). Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>all</b>	(Optional) Specifies all locations.
<b>page</b>	(Optional) Displays the command output on a single page at a time. Use the Return key to display the next line of output or use the space bar to display the next page of information. If not used, the output scrolls (that is, it does not stop for page breaks).  Press the <b>Ctrl-C</b> keys to stop the command output.

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.2	This command was introduced.

## Usage Guideline

### Tip

This command can generate a very large amount of output. You may want to redirect the output to a file using the **file send-to** keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

This command generates terminal information that relates to debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.



### Note

This command is not required during normal use of the router.

See the Cisco IOS XR software command references for information about these commands and descriptions of their command output. The Cisco IOS XR software command references are located at the following URL:

[http://www.cisco.com/en/US/products/ps5845/prod\\_command\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps5845/prod_command_reference_list.html)

**Task ID**

Task ID	Operations
basic-services	read

**Examples**

The following example shows some of the **show tech-support terminal** command output:

```
RP/0/0/CPU0:router# show tech-support terminal page
```

```
-----
show tech-support
-----

----- show running-config (no password) -----
Building configuration...
!! Last configuration change at Wed Oct 10 20:05:13 2007
!
hostname P1_CRS-8
line console
  exec-timeout 600 0
  session-timeout 600
!
line default
  exec-timeout 600 0
  session-timeout 600
!
clock timezone PST 8
clock summer-time DST recurring 2 sunday march 02:00 first sunday november 02:00
logging console informational
telnet vrf default ipv4 server max-servers no-limit
domain ipv4 host p1 172.29.52.72
domain ipv4 host p2 172.29.52.77
domain ipv4 host ce6 172.29.52.73
domain ipv4 host ce7 172.29.52.78
domain ipv4 host p11 172.29.52.83
domain ipv4 host pe6 172.29.52.128
domain ipv4 host pe7 172.29.52.182
domain ipv4 host ce25 172.29.52.85
domain ipv4 host ce28 172.29.52.1
domain ipv4 host ce29 172.29.52.178
domain ipv4 host pe21 172.29.52.163
domain ipv4 host pe22 172.29.52.219
domain ipv4 host ce28_nme 172.29.52.177
domain ipv4 host ce29_nme 172.29.52.179
domain lookup disable
username P2_CRS-8
  password 7 <removed>
!
aps group 1
  revert 1
  channel 0 local SONET0/1/4/3
  channel 1 local SONET0/1/4/2
!
vty-pool default 0 25
alias cr copy run disk0:/usr/P1_base_config
alias sa show alias
alias sc show config commit list
alias sd show diag
alias si show ip int brief
alias sl show led
```



```
description Connected to PE6 C12406 GE 0/4/0/1
ipv4 address 10.16.4.1 255.255.255.0
!
interface GigabitEthernet0/1/5/3
shutdown
!
interface GigabitEthernet0/1/5/4
shutdown
!
interface GigabitEthernet0/1/5/5
shutdown
!
interface GigabitEthernet0/1/5/6
description Connected to P2_CRS-8 GE 0/1/5/6
bundle id 28 mode active
!
interface GigabitEthernet0/1/5/7
description Connected to P2_CRS-8 GE 0/1/5/7
bundle id 28 mode active
!
interface GigabitEthernet0/6/5/0
shutdown
!
interface GigabitEthernet0/6/5/1
description Connected to P2_CRS-8 GE 0/6/5/1
ipv4 address 10.12.20.1 255.255.255.0
!
interface GigabitEthernet0/6/5/2
description Connected to PE6 C12406 GE 0/4/0/2
ipv4 address 10.16.8.1 255.255.255.0
!
interface GigabitEthernet0/6/5/3
shutdown
!
interface GigabitEthernet0/6/5/4
shutdown
!
interface GigabitEthernet0/6/5/5
shutdown
!
interface GigabitEthernet0/6/5/6
shutdown
!
interface GigabitEthernet0/6/5/7
description Connected to P2_CRS-8 GE 0/6/5/7
ipv4 address 10.12.40.1 255.255.255.0
!
interface POS0/1/0/0
shutdown
!
interface POS0/1/0/1
description Connected to P2_CRS-8 POS 0/1/0/1
ipv4 address 10.12.8.1 255.255.255.0
!
interface POS0/1/0/2
shutdown
!
interface POS0/1/0/3
shutdown
!
interface POS0/1/4/0
description Connected to P2_CRS-8 POS 0/1/4/0
bundle id 24 mode active
!
interface POS0/1/4/1
description Connected to P2_CRS-8 POS 0/1/4/1
bundle id 24 mode active
!
interface POS0/1/4/2
description Connected to P2_CRS-8 POS 0/1/4/2
ipv4 address 10.12.32.1 255.255.255.0
encapsulation ppp
ppp pap sent-username P1_CRS-8 password encrypted <removed>
```

```
ppp authentication chap pap
ppp chap password encrypted <removed>
!
interface POS0/1/4/3
```

## show tech-support tty

To automatically run **show** commands that display information specific to tech-support information related to TTY, use the **show tech-support tty** command in EXEC mode.

**show tech-support tty** [*file sent-to* [**background** | **compressed** | **uncompressed** ]| **location** *node-id* | **rack** *rack-id*]

### Syntax Description

<b>file</b>	(Optional) Specifies that the command output is saved to a specified file.
<i>sent-to</i>	Name of the file. The following valid options are listed: <ul style="list-style-type: none"> <li>• <i>filename</i></li> <li>• <b>bootflash:</b> <i>filename</i></li> <li>• <b>disk0:</b> <i>filename</i></li> <li>• <b>disk0a:</b> <i>filename</i></li> <li>• <b>disk1:</b> <i>filename</i></li> <li>• <b>disk1a:</b> <i>filename</i></li> <li>• <b>disk2:</b> <i>filename</i></li> <li>• <b>ftp:</b> <i>filename</i></li> <li>• <b>harddisk:</b> <i>filename</i></li> <li>• <b>harddiska:</b> <i>filename</i></li> <li>• <b>harddiskb:</b> <i>filename</i></li> <li>• <b>lcdisk0:</b> <i>filename</i></li> <li>• <b>lcdisk0a:</b> <i>filename</i></li> <li>• <b>nvr:</b> <i>filename</i></li> <li>• <b>rcp:</b> <i>filename</i></li> <li>• <b>tftp:</b> <i>filename</i></li> </ul>
<b>background</b>	(Optional) Specifies that the command runs in the background.
<b>compressed</b>	(Optional) Displays compressed command output.
<b>uncompressed</b>	(Optional) Displays the command output with no compression.
<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

---

**rack** *rack-id* (Optional) Specifies a list of racks.  
The *rack-id* denotes a rack number.

---

**Command Default** The command output is not compressed.

**Command Modes** EXEC

Release	Modification
Release 4.3.0	This command was introduced.

### Usage Guideline

**Tip** This command can generate a very large amount of output. You may want to redirect the output to a file using the **file** *send-to* keyword and argument. Redirecting the output to a file also makes sending the output to your Cisco Technical Support representative easier.

Use the **show tech-support tty** command to run **show** commands that display information specific to tty debugging. This command generates tty debugging information that can be useful for Cisco Technical Support representatives when troubleshooting a router. See 'Obtaining Documentation and Submitting a Service Request' section on page iii in the Preface for Cisco Technical Support contact information.



**Note** This command is not required during normal use of the router.

---

Task ID	Task ID	Operation
	cisco-support	read

**Examples** The following example shows the output of the **show tech-support tty** command:

```
RP/0/0/CPU0:router# show tech-support tty
Tue Sep  4 09:41:21.414 UTC
++ Show tech start time: 2012-Sep-04.094121.UTC ++
Tue Sep 04 09:41:22 UTC 2012 Waiting for gathering to complete
.....
Tue Sep 04 09:44:31 UTC 2012 Compressing show tech output
Show tech output available at 0/RP0/CPU0 :
harddisk:/showtech/showtech-tty-2012-Sep-04.094121.UTC.tgz
++ Show tech end time: 2012-Sep-04.094432.UTC ++
```

# show tty details

To display TTY session information, use the **show tty details** command in the EXEC mode.

**show tty details** [*location node-id*]

<b>Syntax Description</b>	<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
---------------------------	--------------------------------	--

**Command Default** None

**Command Modes** EXEC

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 4.3.0	This command was introduced.

## Usage Guidelines

<b>Task ID</b>	<b>Task ID</b>	<b>Operation</b>
	tty-access	read

## Examples

The following example shows output of the **show tty details** command:

```
RP/0/0/CPU0:router# show tty details
Mon Sep  3 08:18:19.057 UTC

  Session Id      Exec Pid      Master Pid      PTY Count      Net Count      IBuf Count
Con              0            39280825        ----          ----          ----
Aux              0             8201           ----          ----          ----

  Session Id      Exec Pid      Master Pid      PTY Count      Net Count      IBuf Count
VTY              0            1077467         1077452        642           40582         655
```

The following example shows output of the **show tty details location 0/RP0/CPU0** command:

```
RP/0/0/CPU0:router# show tty details location 0/RP0/CPU0
Mon Sep  3 08:20:29.469 UTC

  Session Id      Exec Pid      Master Pid      PTY Count      Net Count      IBuf Count
Con              0            39280825        ----          ----          ----
```

## show tty details

Aux	0	8201	----	----	----	----
Session Id	Exec Pid	Master Pid	PTY Count	Net Count	IBuf Count	
VTY	0	1077467	1077452	642	40582	655



## Watchdog Commands

---

This module describes commands used to monitor the memory states and thresholds of routers running Cisco IOS XR software.

- [show critmon context, page 308](#)
- [show critmon deadline, page 312](#)
- [show critmon statistics, page 315](#)
- [show critmon trace all, page 323](#)
- [show critmon trace error, page 325](#)
- [show critmon trace info, page 327](#)
- [show critmon trace lib-error, page 329](#)
- [show critmon trace lib-info, page 331](#)
- [show reboot first, page 333](#)
- [show reboot graceful, page 336](#)
- [show reboot history, page 338](#)
- [show reboot last, page 340](#)
- [show reboot pcids, page 343](#)
- [show watchdog, page 346](#)

## show critmon context

To display information about the context for the wd-critical-mon process, use the **show critmon context** command in EXEC or administration EXEC mode.

**show critmon context** {**all**| **deadline** [**client** *client-name*]| **ticker**| **watcher**} **location** {*node-id*| **all**}

### Syntax Description

<b>all</b>	Displays all context information for the wd-critical-mon process.
<b>deadline</b>	Displays the context information for the deadline monitoring client application.
<b>client</b>	(Optional) Displays information only for the specified client.
<i>client-name</i>	Name of the client.
<b>ticker</b>	Displays information for the ticker context for the wd-critical-mon process.
<b>watcher</b>	Displays information for the watcher context for the wd-critical-mon process.
<b>location</b>	Specifies a node to filter.
<i>node-id</i>	Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>all</b>	Specifies all locations.

### Command Default

No default behavior or values

### Command Modes

EXEC  
Administration EXEC

### Command History

Release	Modification
Release 3.6.0	This command was introduced.

### Usage Guidelines

Use the **show critmon context** command to display information about the context for the wd-critical-mon process.

**Task ID**

Task ID	Operations
cisco-support	read

**Examples**

The following sample output is from the **show critmon context** command:

```
RP/0/0/CPU0:router# show critmon context all location all
```

```
-----
Ticker context info (Node: 0/5/CPU0)
-----
```

```
CPU#           : 0
Ticker counter  : 2245
Ticker last ran timestamp : 02/10/2008 01:11:10
```

```
-----
Watcher context info (Node: 0/5/CPU0)
-----
```

```
Watcher counter : 751
Watcher last ran : 02/10/2008 01:11:10
```

```
-----
Deadline monitoring context info (Node: 0/5/CPU0)
-----
```

```
Client       : wdsysmon
PunchTimestamp : 02/10/2008 01:11:09
PunchCounter  : 226
```

```
-----
Ticker context info (Node: 0/4/CPU0)
-----
```

```
CPU#           : 0
Ticker counter  : 74
Ticker last ran timestamp : 02/10/2008 01:11:10
```

```
-----
Watcher context info (Node: 0/4/CPU0)
-----
```

```
Watcher counter : 24
Watcher last ran : 02/10/2008 01:11:09
```

```
-----
Deadline monitoring context info (Node: 0/4/CPU0)
-----
```

```
Client       : wdsysmon
PunchTimestamp : 02/10/2008 01:11:10
PunchCounter  : 8
```

```
-----
Ticker context info (Node: 0/2/CPU0)
-----
```

```
CPU#           : 0
Ticker counter  : 61
Ticker last ran timestamp : 02/10/2008 01:11:10
```

```
-----
Watcher context info (Node: 0/2/CPU0)
-----
Watcher counter   : 21
Watcher last ran  : 02/10/2008 01:11:10
-----
```

```
-----
Deadline monitoring context info (Node: 0/2/CPU0)
-----
Client           : wdsysmon
PunchTimestamp   : 02/10/2008 01:11:09
PunchCounter     : 6
-----
```

```
-----
Ticker context info (Node: 0/1/CPU0)
-----
CPU#             : 0
Ticker counter   : 2093
Ticker last ran timestamp : 02/10/2008 01:11:10
-----
```

```
-----
Watcher context info (Node: 0/1/CPU0)
-----
Watcher counter   : 703
Watcher last ran  : 02/10/2008 01:11:10
-----
```

```
-----
Deadline monitoring context info (Node: 0/1/CPU0)
-----
Client           : wdsysmon
PunchTimestamp   : 02/10/2008 01:11:09
PunchCounter     : 211
-----
```

This table describes the significant fields shown in the display.

**Table 26: show critmon context Field Descriptions**

Field	Description
Ticker context info	wd-critical-mon process ticker context information for the node.
CPU	CPU number.
Ticker counter	Current counter for the wd-critical-mon ticker thread. The ticker counter field specifies the number of times the ticker thread was run.
Ticker last ran timestamp	Timestamp for the last time the wd-critical-mon ticker thread was run.
Watcher context info	wd-critical-mon watcher thread context information that is used for the node.

Field	Description
Watcher counter	Current counter for the wd-critical-mon watcher thread. The watcher counter field specifies the number of times the watcher thread was run
Watcher last ran	Timestamp that is used for the last run of the wd-critical-mon watcher thread.
Deadline monitoring context info	wd-critical-mon deadline monitoring information that is used for the node.
Client	Client name for deadline monitoring.
PunchTimestamp	Timestamp that is used for the last run of the client application.
PunchCounter	Current counter for the deadline monitoring client. This field specifies the number of times that the client application can punch the counter.

**Related Commands**

Command	Description
<a href="#">show critmon deadline, on page 312</a>	Displays information about deadline monitoring.
<a href="#">show critmon statistics, on page 315</a>	Displays information about the critical monitor statistics.
<a href="#">show critmon trace all, on page 323</a>	Displays information about all traces for a critical monitor.
<a href="#">show critmon trace error, on page 325</a>	Displays information about error traces for a critical monitor.
<a href="#">show critmon trace info, on page 327</a>	Displays trace data for an information type for the critical monitor.
<a href="#">show critmon trace lib-error, on page 329</a>	Displays information about the trace data for the library error for the critical monitor.
<a href="#">show critmon trace lib-info, on page 331</a>	Displays trace data for the library information for the critical monitor.

# show critmon deadline

To display information about deadline monitoring, use the **show critmon deadline** command in EXEC mode and in administration EXEC mode

**show critmon deadline registration** [*client client-name*] **location** {*node-id*| **all**}

## Syntax Description

<b>registration</b>	Displays the deadline monitoring registration information.
<b>client</b>	(Optional) Displays information only for the specified client.
<i>client-name</i>	Name of the client.
<b>location</b>	Specifies a node to filter.
<i>node-id</i>	Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>all</b>	Specifies all locations.

## Command Default

No default behavior or values

## Command Modes

EXEC  
Administration EXEC

## Command History

Release	Modification
Release 3.6.0	This command was introduced.

## Usage Guidelines

Use the **show critmon deadline** command to display information about the deadline monitoring.

## Task ID

Task ID	Operations
cisco-support	read

## Examples

The following sample output is from the **show critmon deadline** command:

```
RP/0/0/CPU0:router# show critmon deadline registration location all
```

```

-----
Deadline monitoring registration info (Node: 0/5/CPU0)
-----
ID ClientName          Activated  tick address  timeout vale(sec)
-----
0  wdsysmon            Yes       0x6023d000   60

-----
Deadline monitoring registration info (Node: 0/4/CPU0)
-----
ID ClientName          Activated  tick address  timeout vale(sec)
-----
0  wdsysmon            Yes       0x38146000   60

-----
Deadline monitoring registration info (Node: 0/2/CPU0)
-----
ID ClientName          Activated  tick address  timeout vale(sec)
-----
0  wdsysmon            Yes       0x38146000   60

-----
Deadline monitoring registration info (Node: 0/1/CPU0)
-----
ID ClientName          Activated  tick address  timeout vale(sec)
-----
0  wdsysmon            Yes       0x38101000   60

```

This table describes the significant fields shown in the display.

**Table 27: show critmon deadline Field Descriptions**

Field	Description
Deadline monitoring registration info	Deadline monitoring registration information that is used for the node.
ID	Client ID that is internally managed by the wd-critical-mon process.
ClientName	Name of the client.
Activated	Field specifies that deadline monitoring is activated or not.
tick address	Tick memory address for the client application.
timeout vale(sec)	Deadline timeout value.

#### Related Commands

Command	Description
<a href="#">show critmon context, on page 308</a>	Displays information about the context for the wd-critical-mon process.
<a href="#">show critmon statistics, on page 315</a>	Displays information about the critical monitor statistics.

Command	Description
<a href="#">show critmon trace all, on page 323</a>	Displays information about all traces for a critical monitor.
<a href="#">show critmon trace error, on page 325</a>	Displays information about error traces for a critical monitor.
<a href="#">show critmon trace info, on page 327</a>	Displays trace data for an information type for the critical monitor.
<a href="#">show critmon trace lib-error, on page 329</a>	Displays information about the trace data for the library error for the critical monitor.
<a href="#">show critmon trace lib-info, on page 331</a>	Displays trace data for the library information for the critical monitor.

## show critmon statistics

To display information about the critical monitor statistics, use the **show critmon statistics** command in EXEC mode and in administration EXEC mode.

**show critmon statistics** {**all**| **congestion**| **deadline client** *client-name*| **ticker**| **watcher**} **last** *hours* **location** {*node-id*| **all**}

### Syntax Description

<b>all</b>	Displays all the information for the critical monitor.
<b>congestion</b>	Displays all the CPU congestion information for the critical monitor.
<b>deadline</b>	Displays all the statistics information for the deadline monitor.
<b>client</b>	Displays information only for the specified client.
<i>client-name</i>	Name of the client.
<b>ticker</b>	Displays the ticker statistics for the wd-critical-mon process.
<b>watcher</b>	Displays the watcher statistics for the wd-critical-mon process.
<b>last</b>	Displays only the last number of hours.
<b>hours</b>	Number of last hours. The range is from 1 to 24.
<b>location</b>	Specifies a node to filter.
<i>node-id</i>	Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>all</b>	Specifies all locations.

### Command Default

No default behavior or values

### Command Modes

EXEC  
Administration EXEC

### Command History

Release	Modification
Release 3.6.0	This command was introduced .

**Usage Guidelines**

Use the **show critmon statistics** command to display information about the critical monitor statistics.

**Task ID**

Task ID	Operations
cisco-support	read

**Examples**

The following sample output is from the **show critmon statistics** command:

```
RP/0/0/CPU0:router# show critmon statistics all last 5 location all
```

```
-----
Ticker statistics info (Node: 0/5/CPU0)
-----
```

Period (min)	CPU#	SnapshotTimestamp MM/DD/YYYY hh:mm:ss	tick count	Frequency (count/min)
15	cpu:0	10/22/2007 14:33:39	4478	298
15	cpu:0	10/22/2007 14:48:39	4477	298
15	cpu:0	10/22/2007 15:03:39	4478	298
15	cpu:0	10/22/2007 15:18:39	4477	298
15	cpu:0	10/22/2007 15:33:39	4478	298
15	cpu:0	10/22/2007 15:48:39	4478	298
15	cpu:0	10/22/2007 16:03:39	4477	298
15	cpu:0	10/22/2007 16:18:39	4478	298
15	cpu:0	10/22/2007 16:33:39	4477	298
15	cpu:0	10/22/2007 16:48:39	4478	298
15	cpu:0	10/22/2007 17:03:39	4477	298
15	cpu:0	10/22/2007 17:18:39	4478	298
15	cpu:0	10/22/2007 17:33:39	4477	298
15	cpu:0	10/22/2007 17:48:39	4478	298
15	cpu:0	10/22/2007 18:03:39	4477	298
15	cpu:0	10/22/2007 18:18:39	4478	298
15	cpu:0	10/22/2007 18:33:39	4478	298
15	cpu:0	10/22/2007 18:48:39	4477	298
15	cpu:0	10/22/2007 19:03:39	4477	298
15	cpu:0	10/22/2007 19:18:39	4478	298

```
-----
Watcher statistics info (Node: 0/5/CPU0)
-----
```

Period (min)	SnapshotTimestamp MM/DD/YYYY hh:mm:ss	watch count	Frequency (count/min)
15	10/22/2007 14:33:39	1498	99
15	10/22/2007 14:48:39	1497	99
15	10/22/2007 15:03:39	1498	99
15	10/22/2007 15:18:39	1497	99
15	10/22/2007 15:33:39	1498	99
15	10/22/2007 15:48:39	1497	99
15	10/22/2007 16:03:39	1498	99
15	10/22/2007 16:18:39	1497	99
15	10/22/2007 16:33:39	1498	99
15	10/22/2007 16:48:39	1497	99
15	10/22/2007 17:03:39	1498	99
15	10/22/2007 17:18:39	1497	99
15	10/22/2007 17:33:39	1498	99
15	10/22/2007 17:48:39	1497	99
15	10/22/2007 18:03:39	1498	99
15	10/22/2007 18:18:39	1497	99
15	10/22/2007 18:33:39	1498	99
15	10/22/2007 18:48:39	1497	99

```

15      10/22/2007 19:03:39 1498      99
15      10/22/2007 19:18:39 1497      99

```

```
-----
CPU congestion history (Node: 0/5/CPU0)
-----
```

```
No congestion history
```

```
-----
Deadline monitoring statistics info (Node: 0/5/CPU0)
-----
```

client (name)	SnapshotTimestamp MM/DD/YYYY hh:mm:ss	tick count	Frequency (count/min)
wdsysmon	10/22/2007 14:33:39	450	30
wdsysmon	10/22/2007 14:48:39	450	30
wdsysmon	10/22/2007 15:03:39	450	30
wdsysmon	10/22/2007 15:18:39	449	29
wdsysmon	10/22/2007 15:33:39	450	30
wdsysmon	10/22/2007 15:48:39	450	30
wdsysmon	10/22/2007 16:03:39	450	30
wdsysmon	10/22/2007 16:18:39	449	29
wdsysmon	10/22/2007 16:33:39	450	30
wdsysmon	10/22/2007 16:48:39	450	30
wdsysmon	10/22/2007 17:03:39	450	30
wdsysmon	10/22/2007 17:18:39	450	30
wdsysmon	10/22/2007 17:33:39	449	29
wdsysmon	10/22/2007 17:48:39	450	30
wdsysmon	10/22/2007 18:03:39	450	30
wdsysmon	10/22/2007 18:18:39	450	30
wdsysmon	10/22/2007 18:33:39	449	29
wdsysmon	10/22/2007 18:48:39	450	30
wdsysmon	10/22/2007 19:03:39	450	30
wdsysmon	10/22/2007 19:18:39	450	30

```
-----
Ticker statistics info (Node: 0/4/CPU0)
-----
```

Period (min)	CPU#	SnapshotTimestamp MM/DD/YYYY hh:mm:ss	tick count	Frequency (count/min)
15	cpu:0	10/22/2007 14:25:38	4454	296
15	cpu:0	10/22/2007 14:40:38	4455	297
15	cpu:0	10/22/2007 14:55:38	4454	296
15	cpu:0	10/22/2007 15:10:37	4455	297
15	cpu:0	10/22/2007 15:25:37	4454	296
15	cpu:0	10/22/2007 15:40:37	4455	297
15	cpu:0	10/22/2007 15:55:37	4454	296
15	cpu:0	10/22/2007 16:10:37	4455	297
15	cpu:0	10/22/2007 16:25:37	4455	297
15	cpu:0	10/22/2007 16:40:37	4454	296
15	cpu:0	10/22/2007 16:55:37	4455	297
15	cpu:0	10/22/2007 17:10:37	4455	297
15	cpu:0	10/22/2007 17:25:37	4455	297
15	cpu:0	10/22/2007 17:40:37	4454	296
15	cpu:0	10/22/2007 17:55:37	4455	297
15	cpu:0	10/22/2007 18:10:37	4454	296
15	cpu:0	10/22/2007 18:25:37	4454	296
15	cpu:0	10/22/2007 18:40:37	4455	297
15	cpu:0	10/22/2007 18:55:36	4455	297
15	cpu:0	10/22/2007 19:10:36	4455	297

```
-----
Watcher statistics info (Node: 0/4/CPU0)
-----
```

Period (min)	SnapshotTimestamp MM/DD/YYYY hh:mm:ss	watch count	Frequency (count/min)
-----------------	--	-------------	--------------------------

## show critmon statistics

```

15      10/22/2007 14:25:38 1496      99
15      10/22/2007 14:40:38 1495      99
15      10/22/2007 14:55:38 1495      99
15      10/22/2007 15:10:37 1495      99
15      10/22/2007 15:25:37 1495      99
15      10/22/2007 15:40:37 1495      99
15      10/22/2007 15:55:37 1495      99
15      10/22/2007 16:10:37 1495      99
15      10/22/2007 16:25:37 1495      99
15      10/22/2007 16:40:37 1495      99
15      10/22/2007 16:55:37 1495      99
15      10/22/2007 17:10:37 1495      99
15      10/22/2007 17:25:37 1495      99
15      10/22/2007 17:40:37 1495      99
15      10/22/2007 17:55:37 1495      99
15      10/22/2007 18:10:37 1495      99
15      10/22/2007 18:25:37 1495      99
15      10/22/2007 18:40:37 1495      99
15      10/22/2007 18:55:36 1495      99
15      10/22/2007 19:10:36 1495      99

```

```

-----
CPU congestion history (Node: 0/4/CPU0)
-----

```

```

No congestion history

```

```

-----
Deadline monitoring statistics info (Node: 0/4/CPU0)
-----

```

client (name)	SnapshotTimestamp MM/DD/YYYY hh:mm:ss	tick count	Frequency (count/min)
wdsysmon	10/22/2007 14:25:38	449	29
wdsysmon	10/22/2007 14:40:38	450	30
wdsysmon	10/22/2007 14:55:38	449	29
wdsysmon	10/22/2007 15:10:37	450	30
wdsysmon	10/22/2007 15:25:37	449	29
wdsysmon	10/22/2007 15:40:37	450	30
wdsysmon	10/22/2007 15:55:37	449	29
wdsysmon	10/22/2007 16:10:37	450	30
wdsysmon	10/22/2007 16:25:37	449	29
wdsysmon	10/22/2007 16:40:37	450	30
wdsysmon	10/22/2007 16:55:37	449	29
wdsysmon	10/22/2007 17:10:37	450	30
wdsysmon	10/22/2007 17:25:37	449	29
wdsysmon	10/22/2007 17:40:37	450	30
wdsysmon	10/22/2007 17:55:37	449	29
wdsysmon	10/22/2007 18:10:37	450	30
wdsysmon	10/22/2007 18:25:37	449	29
wdsysmon	10/22/2007 18:40:37	450	30
wdsysmon	10/22/2007 18:55:36	449	29
wdsysmon	10/22/2007 19:10:36	450	30

```

-----
Ticker statistics info (Node: 0/2/CPU0)
-----

```

Period (min)	CPU#	SnapshotTimestamp MM/DD/YYYY hh:mm:ss	tick count	Frequency (count/min)
15	cpu:0	10/22/2007 14:25:41	4454	296
15	cpu:0	10/22/2007 14:40:41	4455	297
15	cpu:0	10/22/2007 14:55:41	4454	296
15	cpu:0	10/22/2007 15:10:41	4455	297
15	cpu:0	10/22/2007 15:25:41	4455	297
15	cpu:0	10/22/2007 15:40:41	4454	296
15	cpu:0	10/22/2007 15:55:41	4455	297
15	cpu:0	10/22/2007 16:10:41	4454	296
15	cpu:0	10/22/2007 16:25:41	4455	297
15	cpu:0	10/22/2007 16:40:41	4454	296

```

15      cpu:0  10/22/2007 16:55:40 4455      297
15      cpu:0  10/22/2007 17:10:40 4455      297
15      cpu:0  10/22/2007 17:25:40 4455      297
15      cpu:0  10/22/2007 17:40:40 4454      296
15      cpu:0  10/22/2007 17:55:40 4455      297
15      cpu:0  10/22/2007 18:10:40 4454      296
15      cpu:0  10/22/2007 18:25:40 4455      297
15      cpu:0  10/22/2007 18:40:40 4454      296
15      cpu:0  10/22/2007 18:55:40 4455      297
15      cpu:0  10/22/2007 19:10:40 4455      297

```

-----  
 Watcher statistics info (Node: 0/2/CPU0)  
 -----

Period (min)	SnapShotTimestamp MM/DD/YYYY hh:mm:ss	watch count	Frequency (count/min)
15	10/22/2007 14:25:41	1495	99
15	10/22/2007 14:40:41	1495	99
15	10/22/2007 14:55:41	1495	99
15	10/22/2007 15:10:41	1495	99
15	10/22/2007 15:25:41	1495	99
15	10/22/2007 15:40:41	1495	99
15	10/22/2007 15:55:41	1495	99
15	10/22/2007 16:10:41	1495	99
15	10/22/2007 16:25:41	1495	99
15	10/22/2007 16:40:41	1496	99
15	10/22/2007 16:55:40	1495	99
15	10/22/2007 17:10:40	1495	99
15	10/22/2007 17:25:40	1495	99
15	10/22/2007 17:40:40	1495	99
15	10/22/2007 17:55:40	1495	99
15	10/22/2007 18:10:40	1495	99
15	10/22/2007 18:25:40	1495	99
15	10/22/2007 18:40:40	1495	99
15	10/22/2007 18:55:40	1495	99
15	10/22/2007 19:10:40	1495	99

-----  
 CPU congestion history (Node: 0/2/CPU0)  
 -----

No congestion history

-----  
 Deadline monitoring statistics info (Node: 0/2/CPU0)  
 -----

client (name)	SnapShotTimestamp MM/DD/YYYY hh:mm:ss	tick count	Frequency (count/min)
wdsysmon	10/22/2007 14:25:41	449	29
wdsysmon	10/22/2007 14:40:41	450	30
wdsysmon	10/22/2007 14:55:41	449	29
wdsysmon	10/22/2007 15:10:41	450	30
wdsysmon	10/22/2007 15:25:41	449	29
wdsysmon	10/22/2007 15:40:41	450	30
wdsysmon	10/22/2007 15:55:41	449	29
wdsysmon	10/22/2007 16:10:41	450	30
wdsysmon	10/22/2007 16:25:41	449	29
wdsysmon	10/22/2007 16:40:41	450	30
wdsysmon	10/22/2007 16:55:40	449	29
wdsysmon	10/22/2007 17:10:40	450	30
wdsysmon	10/22/2007 17:25:40	449	29
wdsysmon	10/22/2007 17:40:40	450	30
wdsysmon	10/22/2007 17:55:40	449	29
wdsysmon	10/22/2007 18:10:40	450	30
wdsysmon	10/22/2007 18:25:40	449	29
wdsysmon	10/22/2007 18:40:40	450	30
wdsysmon	10/22/2007 18:55:40	449	29
wdsysmon	10/22/2007 19:10:40	450	30

## show critmon statistics

```
-----
Ticker statistics info (Node: 0/1/CPU0)
-----
```

Period (min)	CPU#	SnapShotTimestamp MM/DD/YYYY hh:mm:ss	tick count	Frequency (count/min)
15	cpu:0	10/22/2007 14:33:53	4456	297
15	cpu:0	10/22/2007 14:48:53	4455	297
15	cpu:0	10/22/2007 15:03:53	4456	297
15	cpu:0	10/22/2007 15:18:53	4455	297
15	cpu:0	10/22/2007 15:33:53	4455	297
15	cpu:0	10/22/2007 15:48:53	4456	297
15	cpu:0	10/22/2007 16:03:53	4455	297
15	cpu:0	10/22/2007 16:18:52	4456	297
15	cpu:0	10/22/2007 16:33:52	4455	297
15	cpu:0	10/22/2007 16:48:52	4456	297
15	cpu:0	10/22/2007 17:03:52	4455	297
15	cpu:0	10/22/2007 17:18:52	4456	297
15	cpu:0	10/22/2007 17:33:52	4455	297
15	cpu:0	10/22/2007 17:48:52	4455	297
15	cpu:0	10/22/2007 18:03:52	4456	297
15	cpu:0	10/22/2007 18:18:52	4455	297
15	cpu:0	10/22/2007 18:33:52	4456	297
15	cpu:0	10/22/2007 18:48:52	4455	297
15	cpu:0	10/22/2007 19:03:52	4456	297
15	cpu:0	10/22/2007 19:18:52	4455	297

```
-----
Watcher statistics info (Node: 0/1/CPU0)
-----
```

Period (min)	SnapShotTimestamp MM/DD/YYYY hh:mm:ss	watch count	Frequency (count/min)
15	10/22/2007 14:33:53	1495	99
15	10/22/2007 14:48:53	1495	99
15	10/22/2007 15:03:53	1495	99
15	10/22/2007 15:18:53	1495	99
15	10/22/2007 15:33:53	1495	99
15	10/22/2007 15:48:53	1495	99
15	10/22/2007 16:03:53	1495	99
15	10/22/2007 16:18:52	1495	99
15	10/22/2007 16:33:52	1496	99
15	10/22/2007 16:48:52	1495	99
15	10/22/2007 17:03:52	1495	99
15	10/22/2007 17:18:52	1495	99
15	10/22/2007 17:33:52	1495	99
15	10/22/2007 17:48:52	1495	99
15	10/22/2007 18:03:52	1495	99
15	10/22/2007 18:18:52	1495	99
15	10/22/2007 18:33:52	1495	99
15	10/22/2007 18:48:52	1495	99
15	10/22/2007 19:03:52	1495	99
15	10/22/2007 19:18:52	1495	99

```
-----
CPU congestion history (Node: 0/1/CPU0)
-----
```

No congestion history

```
-----
Deadline monitoring statistics info (Node: 0/1/CPU0)
-----
```

client (name)	SnapShotTimestamp MM/DD/YYYY hh:mm:ss	tick count	Frequency (count/min)
wdsysmon	10/22/2007 14:33:53	449	29
wdsysmon	10/22/2007 14:48:53	450	30

```

wdsysmon          10/22/2007 15:03:53 449      29
wdsysmon          10/22/2007 15:18:53 450      30
wdsysmon          10/22/2007 15:33:53 449      29
wdsysmon          10/22/2007 15:48:53 450      30
wdsysmon          10/22/2007 16:03:53 450      30
wdsysmon          10/22/2007 16:18:52 449      29
wdsysmon          10/22/2007 16:33:52 450      30
wdsysmon          10/22/2007 16:48:52 449      29
wdsysmon          10/22/2007 17:03:52 450      30
wdsysmon          10/22/2007 17:18:52 449      29
wdsysmon          10/22/2007 17:33:52 450      30
wdsysmon          10/22/2007 17:48:52 449      29
wdsysmon          10/22/2007 18:03:52 450      30
wdsysmon          10/22/2007 18:18:52 450      30
wdsysmon          10/22/2007 18:33:52 449      29
wdsysmon          10/22/2007 18:48:52 450      30
wdsysmon          10/22/2007 19:03:52 449      29
wdsysmon          10/22/2007 19:18:52 450      30

```

This table describes the significant fields shown in the display.

**Table 28: show critmon statistics Field Descriptions**

Field	Description
Ticker statistics info	Ticker thread statistics information that is used for the node.
Period	Statistics sampling period.
CPU	CPU number.
SnapShotTimestamp	Timestamp that the statistics is saved.
tick count	Ticker counter for the sampling period
Frequency	Frequency for ticker or watcher punch count.
Watcher statistics info	Watcher thread statistics information that is used for the node.
watch count	Watcher count that is used for the sampling period.
CPU congestion history	History of CPU congestion.
Deadline monitoring statistics info	Deadline monitoring statistics information that is used for the node.
client	Name of deadline monitoring client.

### Related Commands

Command	Description
<a href="#">show critmon context</a> , <a href="#">on page 308</a>	Displays information about the context for the wd-critical-mon process.

Command	Description
<a href="#">show critmon deadline, on page 312</a>	Displays information about deadline monitoring.
<a href="#">show critmon trace all, on page 323</a>	Displays information about all traces for a critical monitor.
<a href="#">show critmon trace error, on page 325</a>	Displays information about error traces for a critical monitor.
<a href="#">show critmon trace info, on page 327</a>	Displays trace data for an information type for the critical monitor.
<a href="#">show critmon trace lib-error, on page 329</a>	Displays information about the trace data for the library error for the critical monitor.
<a href="#">show critmon trace lib-info, on page 331</a>	Displays trace data for the library information for the critical monitor.

## show critmon trace all

To display information about all traces for a critical monitor, use the **show critmon trace all** command in EXEC mode and in administration EXEC mode.

```
show critmon trace all [file filename original] [hexdump] [last entries] [reverse] [stats] [tailf] [unique]
[verbose] [wrapping] [location {node-id} all]
```

### Syntax Description

<b>file</b>	(Optional) Displays a specific file.
<i>filename</i>	Name of a specific file.
<b>original</b>	Specifies the original location of the file.
<b>hexdump</b>	(Optional) Displays traces in hexadecimal format.
<b>last</b>	(Optional) Displays trace information for a specific number of entries
<i>entries</i>	Number of entries. Replace entries with the number of entries you want to display. For example, if you enter 5, the display shows the last 5 entries in the trace data. The range is from 1 to 4294967295.
<b>reverse</b>	(Optional) Displays the latest traces first.
<b>stats</b>	(Optional) Displays the statistics in the command output.
<b>tailf</b>	(Optional) Displays the new traces as they are added in the command output.
<b>unique</b>	(Optional) Displays the unique entries with counts in the command output.
<b>verbose</b>	(Optional) Displays the information for internal debugging in the command output.
<b>wrapping</b>	(Optional) Displays the wrapping entries in the command output.
<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>all</b>	Specifies all locations.

**Command Default** No default behavior or values

**Command Modes** EXEC  
Administration EXEC

Release	Modification
Release 3.6.0	This command was introduced.

### Usage Guidelines

Task ID	Task ID	Operations
	cisco-support	read

### Examples

The following sample output is from the **show critmon trace all** command:

```
RP/0/0/CPU0:router# show critmon trace all hexdump
1 wrapping entries (768 possible, 0 filtered, 1 total)
Oct 11 03:18:11.584 wd-critical-mon/lib/info 0/5/CPU0 t10 tp0x00000302000000a0
Oct 11 03:18:11.584 wd-critical-mon/lib/info 0/5/CPU0 t10 critmon_deadline_regin
```

### Related Commands

Command	Description
<a href="#">show critmon context</a> , on page 308	Displays information about the context for the wd-critical-mon process.
<a href="#">show critmon deadline</a> , on page 312	Displays information about deadline monitoring.
<a href="#">show critmon statistics</a> , on page 315	Displays information about the critical monitor statistics.
<a href="#">show critmon trace error</a> , on page 325	Displays information about error traces for a critical monitor.
<a href="#">show critmon trace info</a> , on page 327	Displays trace data for an information type for the critical monitor.
<a href="#">show critmon trace lib-error</a> , on page 329	Displays information about the trace data for the library error for the critical monitor.
<a href="#">show critmon trace lib-info</a> , on page 331	Displays trace data for the library information for the critical monitor.

## show critmon trace error

To display information about error traces for a critical monitor, use the **show critmon trace error** command in EXEC mode and in administration EXEC mode.

**show critmon trace error** [**file** *filename* **original**] [**hexdump**] [**last** *entries*] [**reverse**] [**stats**] [**tailf**] [**unique**] [**verbose**] [**wrapping**] [**location** {*node-id* | **all**}]

### Syntax Description

<b>file</b>	(Optional) Displays a specific file.
<i>filename</i>	Name of a specific file.
<b>original</b>	Specifies the original location of the file.
<b>hexdump</b>	(Optional) Displays traces in hexadecimal format.
<b>last</b>	(Optional) Displays the last numbered entries.
<i>entries</i>	Number of entries. The range is from 1 to 4294967295.
<b>reverse</b>	(Optional) Displays the latest traces first.
<b>stats</b>	(Optional) Displays the statistics.
<b>tailf</b>	(Optional) Displays the new traces as they are added.
<b>unique</b>	(Optional) Displays the unique entries with counts.
<b>verbose</b>	(Optional) Displays the information for internal debugging.
<b>wrapping</b>	(Optional) Displays the wrapping entries in the command output.
<b>location</b>	(Optional) Specifies a node.
<i>node-id</i>	Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>all</b>	Specifies all locations.

### Command Default

No default behavior or values

### Command Modes

EXEC  
Administration EXEC

**Command History**

Release	Modification
Release 3.6.0	This command was introduced.

**Usage Guidelines****Task ID**

Task ID	Operations
cisco-support	read

**Examples**

The following example shows how to use the **show critmon trace error** command:

```
RP/0/0/CPU0:router# show critmon trace error
```

**Related Commands**

Command	Description
<a href="#">show critmon context, on page 308</a>	Displays information about the context for the wd-critical-mon process.
<a href="#">show critmon deadline, on page 312</a>	Displays information about deadline monitoring.
<a href="#">show critmon statistics, on page 315</a>	Displays information about the critical monitor statistics.
<a href="#">show critmon trace all, on page 323</a>	Displays information about all traces for a critical monitor.
<a href="#">show critmon trace info, on page 327</a>	Displays trace data for an information type for the critical monitor.
<a href="#">show critmon trace lib-error, on page 329</a>	Displays information about the trace data for the library error for the critical monitor.
<a href="#">show critmon trace lib-info, on page 331</a>	Displays trace data for the library information for the critical monitor.

## show critmon trace info

To display trace data for an information type for the critical monitor, use the **show critmon trace info** command in EXEC mode and in administration EXEC mode.

**show critmon trace info** [**file** *filename* **original**] [**hexdump**] [**last** *entries*] [**reverse**] [**stats**] [**tailf**] [**unique**] [**verbose**] [**wrapping**] [**location** {*node-id* | **all**}]

Syntax Description	
<b>file</b>	(Optional) Displays a specific file.
<i>filename</i>	Name of a specific file.
<b>original</b>	Specifies the original location of the file.
<b>hexdump</b>	(Optional) Displays traces in hexadecimal format.
<b>last</b>	(Optional) Displays the last numbered entries.
<i>entries</i>	Number of entries. The range is from 1 to 4294967295.
<b>reverse</b>	(Optional) Displays the latest traces first.
<b>stats</b>	(Optional) Displays the statistics.
<b>tailf</b>	(Optional) Displays the new traces as they are added.
<b>unique</b>	(Optional) Displays the unique entries with counts.
<b>verbose</b>	(Optional) Displays the information for internal debugging.
<b>wrapping</b>	(Optional) Displays the wrapping entries in the command output.
<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>location all</b>	Specifies all locations.

**Command Default** No default behavior or values

**Command Modes** EXEC  
Administration EXEC

**Command History**

Release	Modification
Release 3.6.0	This command was introduced.

**Usage Guidelines****Task ID**

Task ID	Operations
cisco-support	read

**Examples**

The following shows how to use the **show critmon trace info** command:

```
RP/0/0/CPU0:router# show critmon trace info
```

**Related Commands**

Command	Description
<a href="#">show critmon context, on page 308</a>	Displays information about the context for the wd-critical-mon process.
<a href="#">show critmon deadline, on page 312</a>	Displays information about deadline monitoring.
<a href="#">show critmon statistics, on page 315</a>	Displays information about the critical monitor statistics.
<a href="#">show critmon trace all, on page 323</a>	Displays information about all traces for a critical monitor.
<a href="#">show critmon trace error, on page 325</a>	Displays information about error traces for a critical monitor.
<a href="#">show critmon trace lib-error, on page 329</a>	Displays information about the trace data for the library error for the critical monitor.
<a href="#">show critmon trace lib-info, on page 331</a>	Displays trace data for the library information for the critical monitor.

## show critmon trace lib-error

To display information about the trace data for the library error for the critical monitor, use the **show critmon trace lib-error** command in EXEC mode and in administration EXEC mode.

```
show critmon trace lib-error [file filename original] [hexdump] [last entries] [reverse] [stats] [tailf]
[unique] [verbose] [wrapping] [location {node-id | all}]
```

### Syntax Description

<b>file</b>	(Optional) Displays a specific file.
<i>filename</i>	Name of a specific file.
<b>original</b>	Specifies the original location of the file.
<b>hexdump</b>	(Optional) Displays traces in hexadecimal format.
<b>last</b>	(Optional) Displays the last numbered entries.
<i>entries</i>	Number of entries. The range is from 1 to 4294967295.
<b>reverse</b>	(Optional) Displays the latest traces first.
<b>stats</b>	(Optional) Displays the statistics.
<b>tailf</b>	(Optional) Displays the new traces as they are added.
<b>unique</b>	(Optional) Displays the unique entries with counts.
<b>verbose</b>	(Optional) Displays the information for internal debugging.
<b>wrapping</b>	(Optional) Displays the wrapping entries in the command output.
<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>location all</b>	Specifies all locations.

### Command Default

No default behavior or values

### Command Modes

EXEC  
Administration EXEC

**Command History**

Release	Modification
Release 3.6.0	This command was introduced.

**Usage Guidelines****Task ID**

Task ID	Operations
cisco-support	read

**Examples**

The following shows how to use the **show critmon trace lib-error** command:

```
RP/0/0/CPU0:router# show critmon trace lib-error
```

**Related Commands**

Command	Description
<a href="#">show critmon context, on page 308</a>	Displays information about the context for the wd-critical-mon process.
<a href="#">show critmon deadline, on page 312</a>	Displays information about deadline monitoring.
<a href="#">show critmon statistics, on page 315</a>	Displays information about the critical monitor statistics.
<a href="#">show critmon trace all, on page 323</a>	Displays information about all traces for a critical monitor.
<a href="#">show critmon trace error, on page 325</a>	Displays information about error traces for a critical monitor.
<a href="#">show critmon trace info, on page 327</a>	Displays trace data for an information type for the critical monitor.
<a href="#">show critmon trace lib-info, on page 331</a>	Displays trace data for the library information for the critical monitor.

## show critmon trace lib-info

To display trace data for the library information for the critical monitor, use the **show critmon trace lib-info** command in EXEC mode and in administration EXEC mode.

```
show critmon trace lib-info [file filename original] [hexdump] [last entries] [reverse] [stats] [tailf] [unique]
[verbose] [wrapping] [location {node-id all}]
```

### Syntax Description

<b>file</b>	(Optional) Displays a specific file.
<i>filename</i>	Name of a specific file.
<b>original</b>	Specifies the original location of the file.
<b>hexdump</b>	(Optional) Displays traces in hexadecimal format.
<b>last</b>	(Optional) Displays the last numbered entries.
<i>entries</i>	Number of entries. The range is from 1 to 4294967295.
<b>reverse</b>	(Optional) Displays the latest traces first.
<b>stats</b>	(Optional) Displays the statistics.
<b>tailf</b>	(Optional) Displays the new traces as they are added.
<b>unique</b>	(Optional) Displays the unique entries with counts.
<b>verbose</b>	(Optional) Displays the information for internal debugging.
<b>wrapping</b>	(Optional) Displays the wrapping entries in the command output.
<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.
<b>location</b> all	(Optional) Specifies all locations.

**Command Default** No default behavior or values

**Command Modes** EXEC  
Administration EXEC

Release	Modification
Release 3.6.0	This command was introduced.

### Usage Guidelines

Task ID	Operations
cisco-support	read

**Examples** The following example shows how to use the **show critmon trace lib-info** command:

```
RP/0/0/CPU0:router# show critmon trace lib-info
```

Related Commands	Command	Description
	<a href="#">show critmon context, on page 308</a>	Displays information about the context for the wd-critical-mon process.
	<a href="#">show critmon deadline, on page 312</a>	Displays information about deadline monitoring.
	<a href="#">show critmon statistics, on page 315</a>	Displays information about the critical monitor statistics.
	<a href="#">show critmon trace all, on page 323</a>	Displays information about all traces for a critical monitor.
	<a href="#">show critmon trace error, on page 325</a>	Displays information about error traces for a critical monitor.
	<a href="#">show critmon trace info, on page 327</a>	Displays trace data for an information type for the critical monitor.
	<a href="#">show critmon trace lib-error, on page 329</a>	Displays information about the trace data for the library error for the critical monitor.

# show reboot first

To display reboot information for a node first, use the **show reboot first** command in EXEC mode.

**show reboot first** {*crashinfo*|*syslog*|*trace*} **location** *node-id*

## Syntax Description

<b>crashinfo</b>	Displays crash information.
<b>syslog</b>	Displays information for the system logs.
<b>trace</b>	Displays the log for the reboot trace.
<b>location</b>	Specifies a node.
<i>node-id</i>	Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.6.0	This command was introduced.

## Usage Guidelines

### Task ID

Task ID	Operations
system	read

## Examples

The following example shows a sample output from the **show reboot first** command:

```
RP/0/0/CPU0:router# show reboot first syslog location 0/4/cpu0
```

```
Syslog Timestamp: Mon Jul 28 14:27:26 2008
```

```
DRP/0/4/CPU0:Jan 1 00:00:00.000 : wd-critical-mon[79]: HW Watchdog: disabled o.
DRP/0/4/CPU0:Jan 1 00:00:00.000 : wd-critical-mon[79]: HW Watchdog: registratir
DRP/0/4/CPU0:Jun 10 11:24:12.258 : init[65540]: %OS-INIT-7-MBI_STARTED : total
DRP/0/4/CPU0:Jun 10 11:24:28.088 : insthelper[59]: %INSTALL-INSTHELPER-7-START_
DRP/0/4/CPU0:Jun 10 11:24:38.547 : insthelper[59]: %INSTALL-INSTHELPER-7-PKG_D0
DRP/0/4/CPU0:Jun 10 11:25:40.345 : sysmgr[78]: %OS-SYSMGR-5-NOTICE : Card is CO
DRP/0/4/CPU0:Jun 10 11:25:41.449 : init[65540]: %OS-INIT-7-INSTALL_READY : tota
DRP/0/4/CPU0:Jun 10 11:25:42.360 : dsc[151]: Memory Sanity Check Enabled
DRP/0/4/CPU0:Jun 10 11:25:44.790 : reddrv[297]: %PLATFORM-REDDRV-5-GO_BID : Car
```

## show reboot first

```

DRP/0/4/CPU0:Jun 10 11:25:44.628 : syslog_dev[76]: reddrv[297]:
DRP/0/4/CPU0:Jun 10 11:25:44.631 : syslog_dev[76]: reddrv[297]: reddrv: BID - D.
DRP/0/4/CPU0:Jun 10 11:25:49.100 : reddrv[297]: %PLATFORM-REDDRV-5-GO_ACTIVE :
DRP/0/4/CPU0:Jun 10 11:25:49.099 : syslog_dev[76]: reddrv[297]:
DRP/0/4/CPU0:Jun 10 11:25:49.099 : syslog_dev[76]: reddrv[297]: reddrv: ACTIVE e
DRP/0/4/CPU0:Jun 10 11:25:49.554 : syslog_dev[76]: reddrv[297]: reddrv: transitn
DRP/0/4/CPU0:Jun 10 11:25:49.555 : syslog_dev[76]: reddrv[297]: Reddrv: msg_sen0

DRP/0/4/CPU0:Jun 10 11:26:03.403 : gsp[178]: cci_pdma_queue_cltn_find: returnin
DRP/0/4/CPU0:Jun 10 11:26:03.413 : gsp[178]: cci_pdma_queue_cltn_find: returnin
DRP/0/4/CPU0:Jun 10 11:26:03.414 : gsp[178]: cci_pdma_queue_cltn_find: returnin
DRP/0/4/CPU0:Jun 10 11:26:03.414 : gsp[178]: cci_pdma_queue_cltn_find: returnin
DRP/0/4/CPU0:Jun 10 11:26:03.416 : gsp[178]: cci_pdma_queue_cltn_find: returnin
DRP/0/4/CPU0:Jun 10 11:26:03.416 : gsp[178]: cci_pdma_queue_cltn_find: returnin
DRP/0/4/CPU0:Jun 10 11:26:11.438 : tty_session_startup[339]: %MGBL-TTY-7-SESSIO
DRP/0/4/CPU0:Jun 10 11:26:19.464 : ingressq_spiller[228]: cci_interrupt_source_
DRP/0/4/CPU0:Jun 10 11:27:34.271 : fab_svr[180]: cci_pdma_queue_cltn_find: retu
DRP/0/4/CPU0:Jun 10 11:27:34.273 : fab_svr[180]: cci_pdma_queue_cltn_find: retu
DRP/0/4/CPU0:Jun 10 11:27:34.273 : fab_svr[180]: cci_pdma_queue_cltn_find: retu
DRP/0/4/CPU0:Jun 10 11:27:42.764 : ntpd[207]: %ROUTING-NTPD-5-PEER CLEAR : NTP
DRP/0/4/CPU0:Jun 10 11:28:09.784 : upgrade_daemon[344]: %PLATFORM-UPGRADE_FPD-4
DRP/0/4/CPU0:Jun 10 20:29:41.288 : cfgmgr-rp[131]: %MGBL-CONFIG-6-OIR RESTORE :
DRP/0/4/CPU0:Jun 10 20:29:41.315 : ifmgr[186]: %PKT_INFRA-LINK-3-UPDOWN : Inter
DRP/0/4/CPU0:Jun 10 20:29:41.318 : ifmgr[186]: %PKT_INFRA-LINEPROTO-5-UPDOWN :
DRP/0/4/CPU0:Jun 10 20:29:41.322 : ifmgr[186]: %PKT_INFRA-LINK-3-UPDOWN : Inter
DRP/0/4/CPU0:Jun 10 20:29:41.346 : ifmgr[186]: %PKT_INFRA-LINEPROTO-5-UPDOWN :
DRP/0/4/CPU0:Jun 10 20:31:14.945 : ntpd[207]: %ROUTING-NTPD-5-PEER CLEAR : NTP
DRP/0/4/CPU0:Jun 10 20:31:14.945 : ntpd[207]: %ROUTING-NTPD-5-SYNC_LOSS : Synch
DRP/0/4/CPU0:Jun 10 20:31:14.945 : ntpd[207]: %ROUTING-NTPD-5-SYNC_LOSS : Synch
DRP/0/4/CPU0:Jun 10 21:07:53.108 : sysmgr[78]: %OS-SYSMGR-7-INSTALL NOTIFICATIO
DRP/0/4/CPU0:Jun 10 21:07:53.831 : sysmgr[78]: %OS-SYSMGR-7-INSTALL FINISHED :
DRP/0/4/CPU0:Jun 10 21:08:57.338 : sysmgr[78]: %OS-SYSMGR-7-INSTALL NOTIFICATIO
DRP/0/4/CPU0:Jun 10 21:08:59.532 : ipsec_pp[370]: %SECURITY-IPP-3-ERR GENERAL :
DRP/0/4/CPU0:Jun 10 21:09:02.595 : sysmgr[78]: %OS-SYSMGR-7-INSTALL FINISHED :
DRP/0/4/CPU0:Jun 10 21:10:05.382 : sysmgr[78]: %OS-SYSMGR-7-INSTALL NOTIFICATIO
DRP/0/4/CPU0:Jun 10 21:10:05.617 : sysmgr[78]: %OS-SYSMGR-7-INSTALL FINISHED :
DRP/0/4/CPU0:Jun 10 21:11:13.092 : sysmgr[78]: %OS-SYSMGR-7-INSTALL NOTIFICATIO
DRP/0/4/CPU0:Jun 10 21:11:13.264 : sysmgr[78]: %OS-SYSMGR-7-INSTALL FINISHED :
DRP/0/4/CPU0:Jun 10 21:12:13.803 : sysmgr[78]: %OS-SYSMGR-7-INSTALL NOTIFICATIO
DRP/0/4/CPU0:Jun 10 21:12:14.087 : sysmgr[78]: %OS-SYSMGR-7-INSTALL FINISHED :
DRP/0/4/CPU0:Jun 10 21:12:59.508 : sysmgr[78]: %OS-SYSMGR-7-INSTALL NOTIFICATIO
DRP/0/4/CPU0:Jun 10 21:13:01.213 : sbc[376]: %SERVICES-SBC_PROC-6-INFO : SBC IN
DRP/0/4/CPU0:Jun 10 21:13:01.380 : sysmgr[78]: %OS-SYSMGR-7-INSTALL FINISHED :
DRP/0/4/CPU0:Jun 10 21:14:06.104 : sysmgr[78]: %OS-SYSMGR-7-INSTALL NOTIFICATIO
DRP/0/4/CPU0:Jun 10 21:14:06.278 : sysmgr[78]: %OS-SYSMGR-7-INSTALL FINISHED :
DRP/0/4/CPU0:Jun 10 21:15:10.415 : sysmgr[78]: %OS-SYSMGR-7-INSTALL NOTIFICATIO
DRP/0/4/CPU0:Jun 10 21:15:11.174 : sysmgr[78]: %OS-SYSMGR-7-INSTALL FINISHED :
DRP/0/4/CPU0:Jun 10 21:16:30.297 : sysmgr[78]: %OS-SYSMGR-7-INSTALL NOTIFICATIO
DRP/0/4/CPU0:Jun 10 21:16:35.848 : sysmgr[78]: %OS-SYSMGR-7-INSTALL FINISHED :
DRP/0/4/CPU0:Jun 10 21:34:13.005 : sbc[376]: %SERVICES-SBCSVI BILLING-5-PATHSTA
DRP/0/4/CPU0:Jun 10 21:34:13.091 : sbc[376]: %SERVICES-SBCSVI BILLING-5-PATHSTA
DRP/0/4/CPU0:Jun 10 21:34:13.351 : squid_sbcmpf[379]: %SERVICES-SBC_MPF-6-INFO
DRP/0/4/CPU0:Jun 10 21:34:13.966 : sbcsvi_ea[377]: %SERVICES-SBCSVI_EA-3-LINK F
DRP/0/4/CPU0:Jun 10 21:58:04.777 : syslog_dev[76]: debug_d[143]: sysdb_find fai'

DRP/0/4/CPU0:Jun 10 21:58:04.892 : sysmgr[78]: debug_d(1) (jid 143) (pid 86082)d
DRP/0/4/CPU0:Jun 10 21:58:05.537 : syslog_dev[76]: debug_d[143]: sysdb_find fai'
DRP/0/4/CPU0:Jun 10 21:58:05.646 : sysmgr[78]: debug_d(1) (jid 143) (pid 147522d

DRP/0/4/CPU0:Jun 13 16:40:50.173 : exec[65690]: %SECURITY-login-6-AUTHEN_SUCCES
DRP/0/4/CPU0:Jun 13 16:41:45.619 : syslog_dev[76]: debug_d[143]: sysdb_find fai'

DRP/0/4/CPU0:Jun 13 16:41:45.745 : sysmgr[78]: debug_d(1) (jid 143) (pid 151618d
DRP/0/4/CPU0:Jun 13 16:41:46.114 : syslog_dev[76]: debug_d[143]: sysdb_find fai'

```

```

DRP/0/4/CPU0:Jun 13 16:41:46.254 : sysmgr[78]: debug_d(1) (jid 143) (pid 458818d
DRP/0/4/CPU0:Jun 13 16:41:51.266 : devc-conaux[54]: %MGBL-RS232-6-DCD_LOST : Lo
DRP/0/4/CPU0:Jun 13 16:42:01.265 : devc-conaux[54]: %MGBL-RS232-6-DCD_DISCOVERE
DRP/0/4/CPU0:Jun 17 13:01:10.557 : pfilter_ma[200]: Entering : timer_msg_hdlr
DRP/0/4/CPU0:Jun 17 13:01:10.559 : pfilter_ma[200]: Entering : acl_es_get_log_i
DRP/0/4/CPU0:Jun 17 13:01:10.559 : pfilter_ma[200]: In acl_es_get_log_info coun0
DRP/0/4/CPU0:Jun 17 13:02:10.555 : pfilter_ma[200]: Entering : timer_msg_hdlr
DRP/0/4/CPU0:Jun 17 13:02:10.555 : pfilter_ma[200]: Entering : acl_es_get_log_i
DRP/0/4/CPU0:Jun 17 13:02:10.555 : pfilter_ma[200]: In acl_es_get_log_info coun0
DRP/0/4/CPU0:Jun 17 13:03:10.555 : pfilter_ma[200]: Entering : timer_msg_hdlr
DRP/0/4/CPU0:Jun 17 13:03:10.555 : pfilter_ma[200]: Entering : acl_es_get_log_i
DRP/0/4/CPU0:Jun 17 13:03:10.555 : pfilter_ma[200]: In acl_es_get_log_info coun0
DRP/0/4/CPU0:Jun 17 13:04:10.555 : pfilter_ma[200]: Entering : timer_msg_hdlr
DRP/0/4/CPU0:Jun 17 13:04:10.555 : pfilter_ma[200]: Entering : acl_es_get_log_i
DRP/0/4/CPU0:Jun 17 13:04:10.555 : pfilter_ma[200]: In acl_es_get_log_info coun0
DRP/0/4/CPU0:Jul 12 16:12:05.932 : ifmgr[186]: %PKT_INFRA-LINK-3-UPDOWN : Inter
DRP/0/4/CPU0:Jul 12 16:12:05.932 : ifmgr[186]: %PKT_INFRA-LINEPROTO-5-UPDOWN :
DRP/0/4/CPU0:Jul 12 16:12:07.703 : ifmgr[186]: %PKT_INFRA-LINK-3-UPDOWN : Inter
DRP/0/4/CPU0:Jul 12 16:12:07.708 : ifmgr[186]: %PKT_INFRA-LINEPROTO-5-UPDOWN :
DRP/0/4/CPU0:Jul 28 10:21:49.239 : sbc[376]: %SERVICES-SBC_PROC-6-INFO : SBC_IN
DRP/0/4/CPU0:Jul 28 10:21:56.836 : squid_sbcmpf[379]: zmpf_heartbeat work: Peer
DRP/0/4/CPU0:Jul 28 14:22:26.643 : sysmgr[78]: %OS-SYSMGR-7-INSTALL_NOTIFICATION
DRP/0/4/CPU0:Jul 28 14:22:31.778 : sysmgr[78]: %OS-SYSMGR-7-INSTALL_FINISHED :

```

## Related Commands

Command	Description
<a href="#">show reboot graceful, on page 336</a>	Displays reboot information for the last graceful reboot for a node.
<a href="#">show reboot history, on page 338</a>	Displays reboot information for the last graceful reboot.
<a href="#">show reboot last, on page 340</a>	Displays the latest crash information.
<a href="#">show reboot pcds, on page 343</a>	Displays Persistent Critical Data Store critical information for the last ungraceful reboot.

# show reboot graceful

To display reboot information for the last graceful reboot for a node, use the **show reboot graceful** command in EXEC mode.

**show reboot graceful location** *node-id*

## Syntax Description

<b>location</b>	Specifies a node.
<i>node-id</i>	Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.6.0	This command was introduced.

## Usage Guidelines

### Task ID

Task ID	Operations
system	read

## Examples

The following sample output is from the **show reboot graceful** command:

```
RP/0/0/CPU0:router# show reboot graceful location 0/1/CPU0

Reboot Time   : Thu Oct 11 19:15:55 2007
Reboot Cause  : 0x4f
Reboot Reason: Cause: HBAgent reloading node on receiving reload notification  0
Trace log     :

[0x46ad85b7b5] Map ingressq PCI base address.ingressq_phy_base = 0xa0000000, in0
[0x46ad8af9ba] Perform Node isolation from Fabric. ingressq_phy_base = 0xa0000008
[0x46ad8afe88] Complete Kernel dumper platform task without dumping. rc: 0
```

## Related Commands

Command	Description
<a href="#">show reboot first</a> , <a href="#">on page 333</a>	Displays reboot information for a node first.

Command	Description
<a href="#">show reboot history, on page 338</a>	Displays reboot information for the last graceful reboot.
<a href="#">show reboot last, on page 340</a>	Displays the latest crash information.
<a href="#">show reboot pcds, on page 343</a>	Displays Persistent Critical Data Store critical information for the last ungraceful reboot.

# show reboot history

To display reboot information for the last graceful reboot, use the `show reboot history` command in EXEC mode.

**show reboot history [reverse] location *node-id***

## Syntax Description

<b>reverse</b>	(Optional) Displays the reverse in chronological order.
<b>location</b>	Specifies a node.
<i>node-id</i>	Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.6.0	This command was introduced.

## Usage Guidelines

The reboot history shows all reboot causes that is stored for the previous node resets.

## Task ID

Task ID	Operations
system	read

## Examples

The following sample output is from the `show reboot history` command:

```
RP/0/0/CPU0:router# show reboot history location 0/1/CPU0
No  Time                               Cause Code Reason
-----
01  Mon Jul 30 19:27:05 2007 0x2000004f Cause: MBI-HELLO reloading node on rec
    receiving reload notification
    Process: mbi-hello
    Traceback: fc15b1a0 fc15b290 482
    0020c fc1d5fb0 0 0
02  Thu Aug 16 16:32:35 2007 0x21000106 Cause: All fabric links down on Fabric
    q
    Process: fabricq_mgr
    Traceback: fc15b1a0 fc15b290 fc9
```

```

03 Thu Aug 16 17:05:20 2007 0x2000004f 9ded4 fc99ae00 fc99affc fc99affc
Cause: MBI-HELLO reloading node on rec
eiving reload notification
Process: mbi-hello

Traceback: fc15b1a0 fc15b290 482
0020c fc1d5fb0 0 0
04 Mon Sep 10 21:01:34 2007 0x21000106 Cause: All fabric links down on Fabric
q
Process: fabricq_mgr

Traceback: fc15b1a0 fc15b290 fc9
a3f00 fc9a0e10 fc9a100c fc9a100c
05 Mon Sep 10 21:36:10 2007 0x2000004f Cause: MBI-HELLO reloading node on rec
eiving reload notification
Process: mbi-hello

Traceback: fc1601a0 fc160290 482
0020c fc1dcfb0 0 0
06 Wed Oct 10 18:28:53 2007 0x21000106 Cause: All fabric links down on Fabric
q
Process: fabricq_mgr

Traceback: fc1601a0 fc160290 fc9
d9f48 fc9d6e58 fc9d7054 fc9d7054
07 Wed Oct 10 19:04:02 2007 0x2000004f Cause: MBI-HELLO reloading node on rec
eiving reload notification
Process: mbi-hello

Traceback: fc160c38 fc160d34 482
0020c fc1ddfb0 0 0
08 Wed Oct 10 20:19:39 2007 0x0000004f Cause: HBAgent reloading node on recei
ving reload notification
Process: hbagent

Traceback: fc160c38 fc160d34 482
00228 fc1ddfb0 0 0
09 Wed Oct 10 20:45:53 2007 0x0000004f Cause: HBAgent reloading node on recei
ving reload notification
Process: hbagent

Traceback: fc160c38 fc160d34 482
00228 fc1ddfb0 0 0
10 Thu Oct 11 19:15:55 2007 0x0000004f Cause: HBAgent reloading node on recei
ving reload notification
Process: hbagent

Traceback: fc160c38 fc160d34 482
00228 fc1ddfb0 0 0

```

**Related Commands**

Command	Description
<a href="#">show reboot first, on page 333</a>	Displays reboot information for a node first.
<a href="#">show reboot graceful, on page 336</a>	Displays reboot information for the last graceful reboot for a node.
<a href="#">show reboot last, on page 340</a>	Displays the latest crash information.
<a href="#">show reboot pclds, on page 343</a>	Displays Persistent Critical Data Store critical information for the last ungraceful reboot.

# show reboot last

To display the latest crash information, use the **show reboot last** command in EXEC mode.

**show reboot last** {*crashinfo*|*syslog*|*trace*} *location node-id*

## Syntax Description

<b>crashinfo</b>	Displays crash information.
<b>syslog</b>	Displays information for the system logs.
<b>trace</b>	Displays the log for the reboot trace.
<b>location</b>	Specifies a node.
<i>node-id</i>	Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.6.0	This command was introduced.

## Usage Guidelines

### Task ID

Task ID	Operations
system	read

## Examples

The following sample output is from the **show reboot last** command:

```
RP/0/0/CPU0:router# show reboot last crashinfo location 0/1/CPU0
Crashinfo Timestamp: Wed Oct 10 19:04:02 2007

20071010 10:04:03
Crash Reason: Cause code 0x2000004f Cause: MBI-HELLO reloading node on receivin0
Exception at 0xfc160f60 signal 5 c=1 f=3
Active process(s):
    pkg/bin/mbi-hello Thread ID 2 on cpu 0
```

```

REGISTER INFO
R0  2000004f  4815da60  4820ea44  00000138
    r0         r1         r2         r3
    r4         r5         r6         r7
R4  4815da38  00000002  4815da48  00000001
    r8         r9         r10        r11
R8  80000000  60277440  4815da28  00000600
    r12        r13        r14        r15
R12 24000094  4820ea00  00000000  00000000
    r16        r17        r18        r19
R16 00000000  00000000  00000000  00000000
    r20        r21        r22        r23
R20 00000000  00000000  00000000  00000000
    r24        r25        r26        r27
R24 00000000  00000000  00000000  482053cc
    r28        r29        r30        r31
R28 4815df7c  4815db68  0000004f  00000009
    cnt        lr         msr        pc
R32 fc1e800c  fc160f38  0002d932  fc160f60
    cnd        xer
R36 48000094  2000000f

```

## SUPERVISOR REGISTERS

## Memory Management Registers

```

Instruction BAT Registers
Index #           Value
IBAT0U #         0x1ffe
IBAT0L #         0x12
IBAT1U #         0
IBAT1L #         0
IBAT2U #         0x30000ffe
IBAT2L #         0xf0000032
IBAT3U #         0
IBAT3L #         0

```

```

Data BAT Registers
Index #           Value
DBAT0U #         0x1ffe
DBAT0L #         0x12
DBAT1U #         0
DBAT1L #         0x10000012
DBAT2U #         0x30000ffe
DBAT2L #         0xf000006a
DBAT3U #         0
DBAT3L #         0xf0000022

```

```

Segment Registers
Index #           SR-Value
0 #             0
1 #             0
2 #             0
3 #             0
4 #             0
5 #             0
6 #             0
7 #             0
8 #             0
9 #             0
10 #            0
11 #            0
12 #            0
13 #            0
14 #            0
15 #            0

```

## Exception Handling Registers

```

Data Addr Reg #           DSISR

```

## show reboot last

```

0x60277440 #          0x42000000
  SPRG0 #          SPRG1 #          SPRG2 #          SPRG3
0x4815db68 #          0x4f #          0x9 #          0
  SaveNRestore SRR0 #          SaveNRestore SRR1
0xfc160f5c #          0x2d932

```

## Miscellaneous Registers

```

Processor Id Reg #          0
          HID0 #          0x8410c0bc
          HID1 #          0x90018c80

MSSCR0 #          0x88000
MSSSR0 #          0

```

## STACK TRACE

```
#0 0xfc160f38
```

```
0
```

## STACK TRACE

```
#0 0xfc160290
#1 0xfc99ded4
#2 0xfc99ae00
#3 0xfc99affc
#4 0xfc99affc
#5 0xfc99bccc
#6 0xfc646548
#7 0xfc63f074
#8 0xfc16a404
#9 0xfc1688d8
#10 0xfc63f3bc
#11 0xfc1d5fb0

```

## Related Commands

Command	Description
<a href="#">show reboot first, on page 333</a>	Displays reboot information for a node first.
<a href="#">show reboot graceful, on page 336</a>	Displays reboot information for the last graceful reboot for a node.
<a href="#">show reboot history, on page 338</a>	Displays reboot information for the last graceful reboot.
<a href="#">show reboot pcds, on page 343</a>	Displays Persistent Critical Data Store critical information for the last ungraceful reboot.

# show reboot pcds

To display Persistent Critical Data Store (PCDS) critical information for the last ungraceful reboot, use the **show reboot pcds** command in EXEC mode.

**show reboot pcds location** *node-id*

Syntax Description	location	Specifies a node.
	<i>node-id</i>	Node ID. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

**Command Modes** EXEC

Command History	Release	Modification
	Release 3.6.0	This command was introduced.

## Usage Guidelines

Task ID	Task ID	Operations
	system	read

## Examples

The following example shows some sample output from the **show reboot pcds** command:

```
RP/0/0/CPU0:router# show reboot pcds location 0/1/CPU0

PCDS Timestamp: Wed Oct 10 19:04:02 2007
PCDS size: 131072 (bytes)
PCDS Data:

000000 03014352 49544d4f 4e000000 00000000 ..CRITMON.....
000010 02000000 00000008 00000000 30d00000 .....0...
000020 00001a90 00000000 00000000 00000000 .....
000030 0b0f0b0f 13911300 b8000013 b8000017 .....
000040 470ca354 11000300 00001c41 00000000 G..T.....A...
000050 00000974 00000000 30464fe4 ffffffff00 ...t....0FO...
000060 b8000003 b8000007 b8000003 b8000007 .....
000070 0b0f0b0f 13911300 b8000013 b8000017 .....
000080 470ca354 01000300 00001c44 00000000 G..T.....D...
000090 00000975 00000000 30464fe4 ffffffff00 ...u....0FO...
0000a0 b8000003 b8000007 b8000003 b8000007 .....
0000b0 0b0f0b0f 13911300 b8000013 b8000017 .....
0000c0 470ca355 11000300 00001c47 00000000 G..U.....G...
0000d0 00000976 00000000 30464fe4 ffffffff00 ...v....0FO....
```

## show reboot pcids

```

0000e0 b8000003 b8000007 b8000003 b8000007 .....
0000f0 0b0f0b0f 13911300 b8000013 b8000017 .....
000100 470ca355 01000300 00001c4a 00000000 G..U.....J....
000110 00000977 00000000 30464fe4 ffffffff00 ...w....0FO....
000120 b8000003 b8000007 b8000003 b8000007 .....
000130 0b0f0b0f 13911300 b8000013 b8000017 .....
000140 470ca356 11000300 00001c4d 00000000 G..V.....M....
000150 00000978 00000000 30464fe4 ffffffff00 ...x....0FO....
000160 b8000003 b8000007 b8000003 b80000ff .....
000170 0bfff0bff 13911300 b8000013 b8000017 .....
000180 470ca357 01000300 00001c50 00000000 G..W.....P....
000190 00000979 00000000 30464fe4 ffffffff00 ...y....0FO....
0001a0 b8000003 b8000007 b80000ff b8000007 .....
0001b0 ff0fff0f ff911300 b8000013 b8000017 .....
0001c0 470ca357 11000300 00001c53 00000000 G..W.....S....
0001d0 0000097a 00000000 30464fe4 ffffffff00 ...z....0FO....
0001e0 b8000003 b8000007 b80000ff b8000007 .....
0001f0 ff0fff0f ff911300 b8000013 b80000ff .....
000200 470ca358 01000300 00001c56 00000000 G..X.....V....
000210 0000097b 00000000 30464fe4 ffffffff00 ...{....0FO....
000220 b8000003 b8000007 b80000ff b8000007 .....
000230 ff0fff0f ff911300 b8000013 b80000ff .....
000240 470ca358 11000300 00001c59 00000000 G..X.....Y....
000250 0000097c 00000000 30464fe4 ffffffff00 ...|....0FO....
000260 b8000003 b8000007 b80000ff b8000007 .....
000270 ff0fff0f ff911300 b8000013 b80000ff .....
000280 470ca359 01000300 00001c5c 00000000 G..Y.....\....
000290 0000097d 00000000 30464fe4 ffffffff00 ...}....0FO....
0002a0 b8000003 b8000007 b8000003 b8000007 .....
0002b0 0b0f0b0f 13911300 b8000013 b8000017 .....
0002c0 470ca35a 11000300 00001c5f 00000000 G..Z....._....
0002d0 0000097e 00000000 30464fe4 ffffffff00 ...~....0FO....
0002e0 b8000003 b8000007 b8000003 b8000007 .....
0002f0 0b0f0b0f 13911300 b8000013 b8000017 .....
000300 470ca35a 01000300 00001c62 00000000 G..Z.....b....
000310 0000097f 00000000 30464fe4 ffffffff00 .....0FO....
000320 b8000003 b8000007 b8000003 b8000007 .....
000330 0b0f0b0f 13911300 b8000013 b8000017 .....
000340 470ca35b 11000300 00001c65 00000000 G..[.....e....
000350 00000980 00000000 30464fe4 ffffffff00 .....0FO....
000360 b8000003 b8000007 b8000003 b8000007 .....
000370 0b0fff0f 13911300 b8000013 b8000017 .....
000380 470ca35b 01000300 00001c68 00000000 G..[.....h....
000390 00000981 00000000 30464fe4 ffffffff00 .....0FO....
0003a0 b80000ff b80000ff b8000003 b80000ff .....
0003b0 0bfff0bff 13911300 b80000ff b8000017 .....
0003c0 470ca35c 11000300 00001c6b 00000000 G..\<.....k....
0003d0 00000982 00000000 30464fe4 ffffffff00 .....0FO....
0003e0 b8000003 b8000007 b8000003 b8000007 .....
0003f0 0b0f0b0f 13911300 b8000013 b8000017 .....
000400 470ca35d 01000300 00001c6e 00000000 G..].....n....
000410 00000983 00000000 30464fe4 ffffffff00 .....0FO....
000420 b8000003 b8000007 b8000003 b8000007 .....
000430 0b0f0b0f 13911300 b8000013 b8000017 .....
000440 470ca35d 11000300 00001c71 00000000 G..].....q....
000450 00000984 00000000 30464fe4 ffffffff00 .....0FO....
000460 b8000003 b8000007 b8000003 b8000007 .....
000470 0b0f0b0f 13911300 b8000013 b8000017 .....
000480 470ca35e 01000300 00001c74 00000000 G..^.....t....
000490 00000985 00000000 30464fe4 ffffffff00 .....0FO....
0004a0 b8000003 b8000007 b8000003 b8000007 .....
0004b0 0b0f0b0f 13911300 b8000013 b8000017 .....
0004c0 470ca35e 11000300 00001c77 00000000 G..^.....w....
0004d0 00000986 00000000 30464fe4 ffffffff00 .....0FO....
0004e0 b8000003 b8000007 b8000003 b8000007 .....
0004f0 0b0f0b0f 13911300 b8000013 b8000017 .....
000500 470ca35f 01000300 00001c7a 00000000 G.._.....z....
000510 00000987 00000000 30464fe4 ffffffff00 .....0FO....
000520 b8000003 b8000007 b8000003 b8000007 .....
000530 0b0f0b0f 13911300 b8000013 b8000017 .....
000540 470ca360 11000300 00001c7d 00000000 G..`.....}....
000550 00000988 00000000 30464fe4 ffffffff00 .....0FO....
000560 b8000003 b8000007 b8000003 b8000007 .....

```

```

000570 0b0f0b0f 13911300 b8000013 b8000017 .....
000580 470ca360 01000300 00001c80 00000000 G..^ .....
000590 00000989 00000000 30464fe4 ffffffff00 .....0FO.....
0005a0 b8000003 b8000007 b8000003 b8000007 .....
0005b0 0b0f0b0f 13911300 b8000013 b8000017 .....
0005c0 470ca361 11000300 00001c83 00000000 G..a .....
0005d0 0000098a 00000000 30464fe4 ffffffff00 .....0FO.....
0005e0 b8000003 b8000007 b8000003 b8000007 .....
0005f0 0b0f0b0f 13911300 b8000013 b8000017 .....
000600 470ca361 01000300 00001c86 00000000 G..a .....
000610 0000098b 00000000 30464fe4 ffffffff00 .....0FO.....
000620 b8000003 b8000007 b8000003 b8000007 .....
000630 0b0f0b0f 13911300 b8000013 b8000017 .....
000640 470ca362 11000300 00001c89 00000000 G..b .....
000650 0000098c 00000000 30464fe4 ffffffff00 .....0FO.....
000660 b8000003 b8000007 b8000003 b8000007 .....
000670 0b0f0b0f 13911300 b8000013 b8000017 .....
000680 470ca363 01000300 00001c8c 00000000 G..c .....
000690 0000098d 00000000 30464fe4 ffffffff00 .....0FO.....
0006a0 b8000003 b8000007 b8000003 b8000007 .....
0006b0 0b0f0b0f 13911300 b8000013 b8000017 .....
0006c0 470ca363 11000300 00001c8f 00000000 G..c .....
0006d0 0000098e 00000000 30464fe4 ffffffff00 .....0FO.....
    
```

**Related Commands**

Command	Description
<a href="#">show reboot first, on page 333</a>	Displays reboot information for a node first.
<a href="#">show reboot graceful, on page 336</a>	Displays reboot information for the last graceful reboot for a node.
<a href="#">show reboot history, on page 338</a>	Displays reboot information for the last graceful reboot.
<a href="#">show reboot last, on page 340</a>	Displays the latest crash information.

# show watchdog

To display information about the memory state or threshold memory, use the **show watchdog** command in EXEC mode.

**show watchdog** [**memory-state**| **threshold memory configured**] [**location** *node-id*]

## Syntax Description

<b>memory-state</b>	(Optional) Displays the memory state.
<b>threshold memory</b>	(Optional) Displays the memory thresholds.
<b>configured</b>	Displays the configured memory thresholds.
<b>location</b> <i>node-id</i>	(Optional) Specifies a node. The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.  The <b>location</b> <i>node-id</i> keyword and argument must be specified if the <b>threshold memory</b> keywords are selected.

## Command Default

The command output is not compressed.

## Command Modes

EXEC

## Command History

Release	Modification
Release 3.2	This command was introduced.

## Usage Guidelines

Use the **show watchdog** command to display information about the memory states or thresholds for a specified location. You can display the default or configured memory thresholds.

## Task ID

Task ID	Operations
basic-services	read

**Examples**

The following sample output is from the **show watchdog** command:

```
RP/0/0/CPU0:router# show watchdog memory-state

Wed Nov  4 00:18:59.575 UTC
Memory information:
  Physical Memory: 4096      MB
  Free Memory:    2623.671 MB
  Memory State:   Normal
```

**Related Commands**

Command	Description
<b>watchdog threshold memory</b>	Configures the value of memory available for each alarm threshold.





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